
Current Conditions & Outlook for Global Credit Markets

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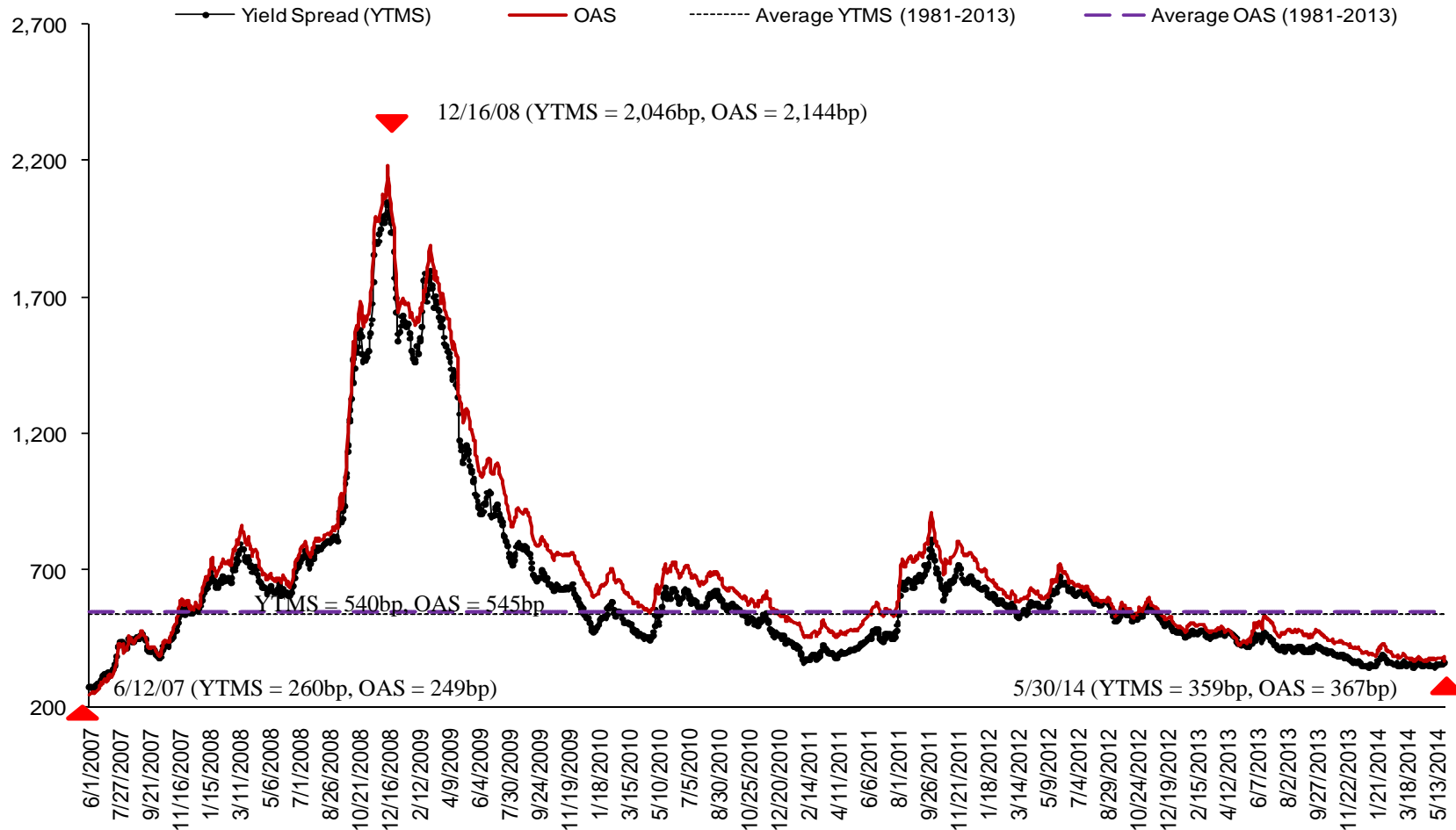
IRMC Conference 2014, 7th Annual Meeting
Warsaw, Poland
June 24, 2014

Summary of Recent High-Yield Bond Activity & Outlook

- **Low Default Rates and Bankruptcies (Chapter 11 Filings) and High Recovery Rates: 2010-2014**
 - Outlook is for Default Rates in the U.S. H.Y. Market to Remain Below Average in 2014, but for European Default Rates to Increase
 - Decreasing Chapter 11 Filings and Time to Emergences since 2009
 - Current Levels of Filings about Equal to Historic Median
- **Record New Issuance of H.Y. Bonds in the U.S. and Europe Since 2010**
 - Outlook is for Record or Near-Record Continued New Issuance as Interest Rates Remain at Near Record Low Levels
 - Increase in High-Yield New Issues at CCC Level Implying Higher Risk of Future Defaults
 - Asian High-Yield Bond Market Size about 1/3 of Europe and Less than 1/10 of U.S. (but Growing)
- **Likely Spike in Default Rates Sometime between 2015-2017: Catalyst?**
- **Credit Quality of U.S. H.Y. and I.G. Market Now No Better than, and Probably Worse than, Prior to the Financial Crisis (2007)**
 - Z-Score Model Results
 - Liquidity/Debt Comparisons
- **Moderate Risk-Adjusted Returns for High-Yield and Distressed Debt Markets, Despite Elevated Price Levels**
 - Outlook is for Mid-High Single-Digit Returns in 2014
- **Quality Junk and Short-Sale Strategies**
 - Buy Quality Junk and Sell (Short) Junk Quality
- **A Novel Approach To Assessing Sovereign Debt Default Risk**
 - Bottom-Up Approach for Private Firms and Banks in Europe and Asia

YTM & Option-Adjusted Spreads Between High Yield Markets & U.S. Treasury Notes

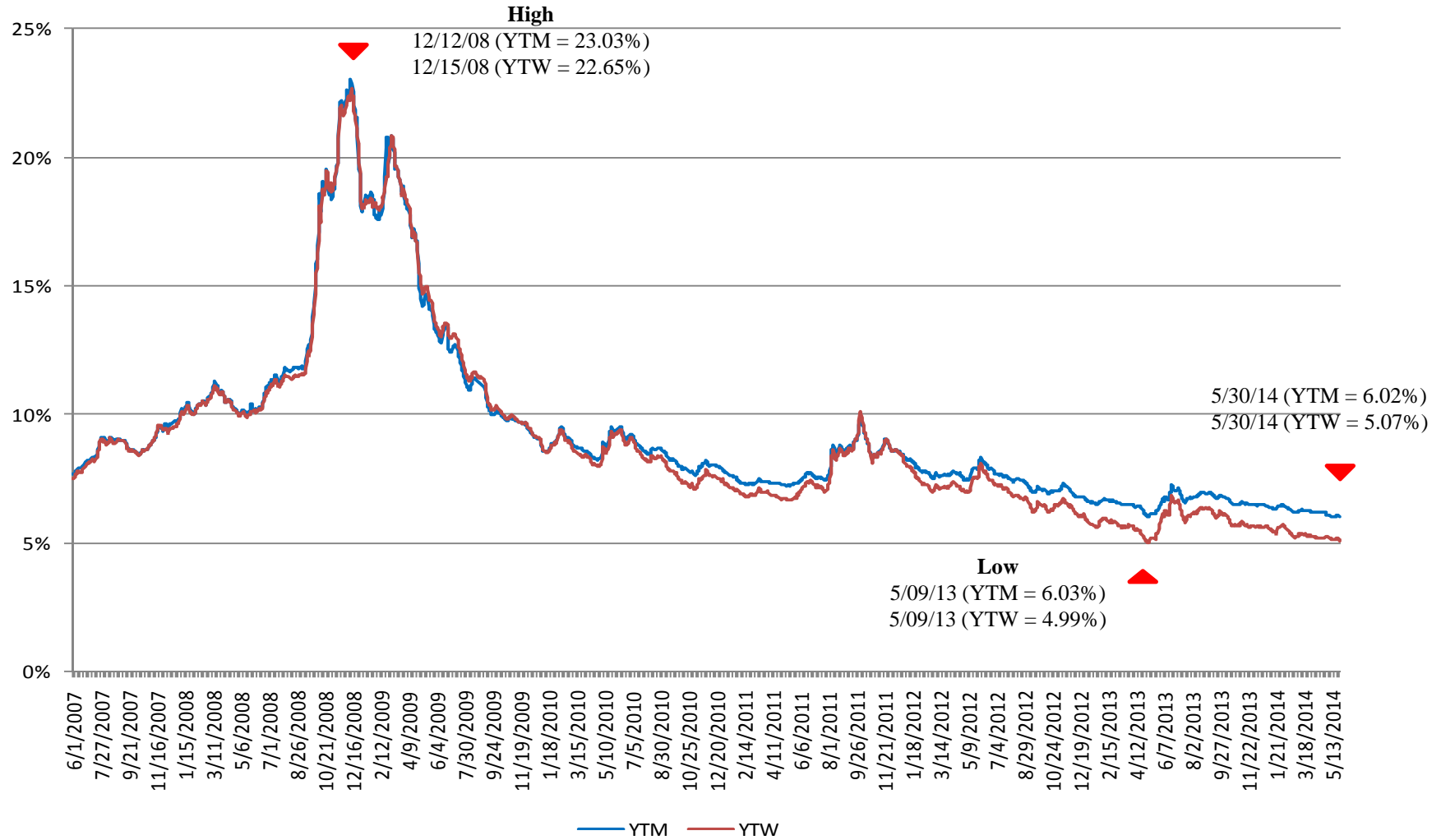
June 01, 2007 – May 30, 2014



Sources: Citigroup Yieldbook Index Data and Bank of America Merrill Lynch.

High Yield Bonds - Yield to Maturity vs. Yield to Worst

June 01, 2007 – May 30, 2014



Sources: Citigroup Yieldbook Index Data

Major Risks Going Forward (For 2014)

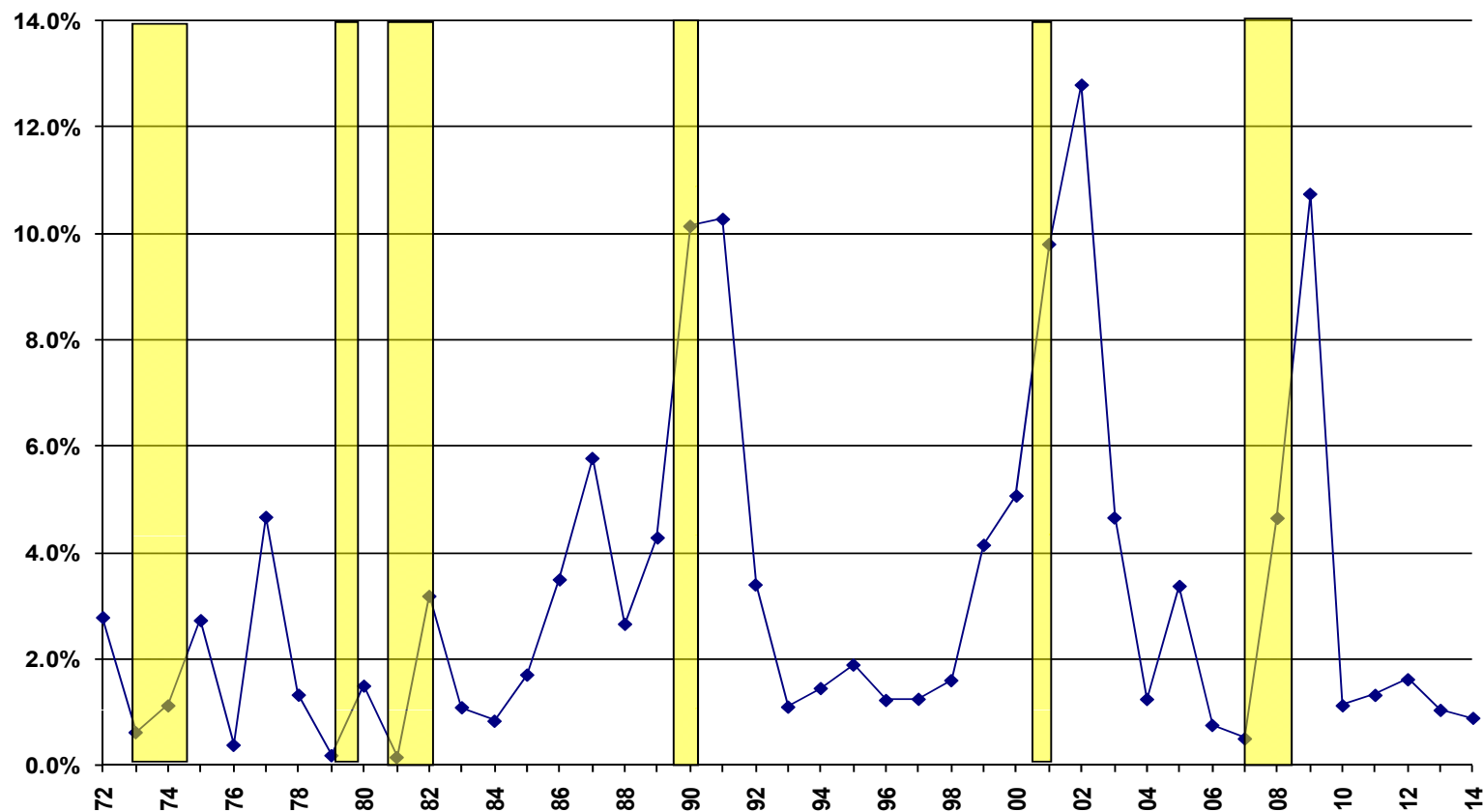
- Global Economy Slowdown – Primarily U.S.: Impact on Default & Recovery Rates, Credit Availability & Credit Quality
 - China
 - Europe
 - South America
- Sovereign Debt Crisis – Europe (Asia? South America?)
 - Calm in Late 2012-2013
 - Looming Corporate Defaults Despite Low (2013) Default Rate?
 - Survival of the Euro?
 - Problems in India and Indonesia, Brazil?
- Fed Balance Sheet, Money Supply and Inflation
- LBO and Covenant-Lite Risk
- Role of Collateral in the Global Financial System
- Contagion Between Markets – Debt and Equity
- Increased Investor Leverage in Stock Markets Similar to 2007
- U.S. Municipal Bond & Federal Government Default Risk
- Uncertainties (non-quantifiable)

Major Agencies Bond Rating Categories

<u>Moody's</u>		<u>S&P/Fitch</u>
Aaa		AAA
Aa1		AA+
Aa2		AA
Aa3		AA-
A1		A+
A2		A
A3		A-
Baa1		BBB+
Baa2	Investment	BBB
Baa3	Grade	BBB-
Ba1	High Yield	BB+
Ba2	("Junk")	BB
Ba3		BB-
B1		B+
B2		B
B3		B-
Caa1		CCC+
Caa		CCC
Caa3		CCC-
Ca		CC
C		C
		D

Historical Default Rates and Recession Periods in the U.S.

HIGH YIELD BOND MARKET (1972 – 2014 (1Q))*



Periods of Recession: 11/73 - 3/75, 1/80 - 7/80, 7/81 - 11/82, 7/90 - 3/91, 4/01 – 12/01, 12/07 - 6/09

*All rates annual , except for 1Q 2014 which is the LTM.

Source: E. Altman (NYU Salomon Center) & National Bureau of Economic Research

Historical Default Rates

Straight Bonds Only Excluding Defaulted Issues From Par Value Outstanding, (*US\$ millions*), 1971 – 2014 (5/30)

Year	Par Value Outstanding ^a (\$)	Par Value Defaults (\$)	Default Rates (%)
2014 (5/30)*	1,436,828	22,071	1.536
2013	1,392,212	14,539	1.044
2012	1,212,362	19,647	1.621
2011	1,354,649	17,963	1.326
2010	1,221,569	13,809	1.130
2009	1,152,952	123,878	10.744
2008	1,091,000	50,763	4.653
2007	1,075,400	5,473	0.509
2006	993,600	7,559	0.761
2005	1,073,000	36,209	3.375
2004	933,100	11,657	1.249
2003	825,000	38,451	4.661
2002	757,000	96,855	12.795
2001	649,000	63,609	9.801
2000	597,200	30,295	5.073
1999	567,400	23,532	4.147
1998	465,500	7,464	1.603
1997	335,400	4,200	1.252
1996	271,000	3,336	1.231
1995	240,000	4,551	1.896
1994	235,000	3,418	1.454
1993	206,907	2,287	1.105
1992	163,000	5,545	3.402
1991	183,600	18,862	10.273
1990	181,000	18,354	10.140
1989	189,258	8,110	4.285
1988	148,187	3,944	2.662
1987	129,557	7,486	5.778

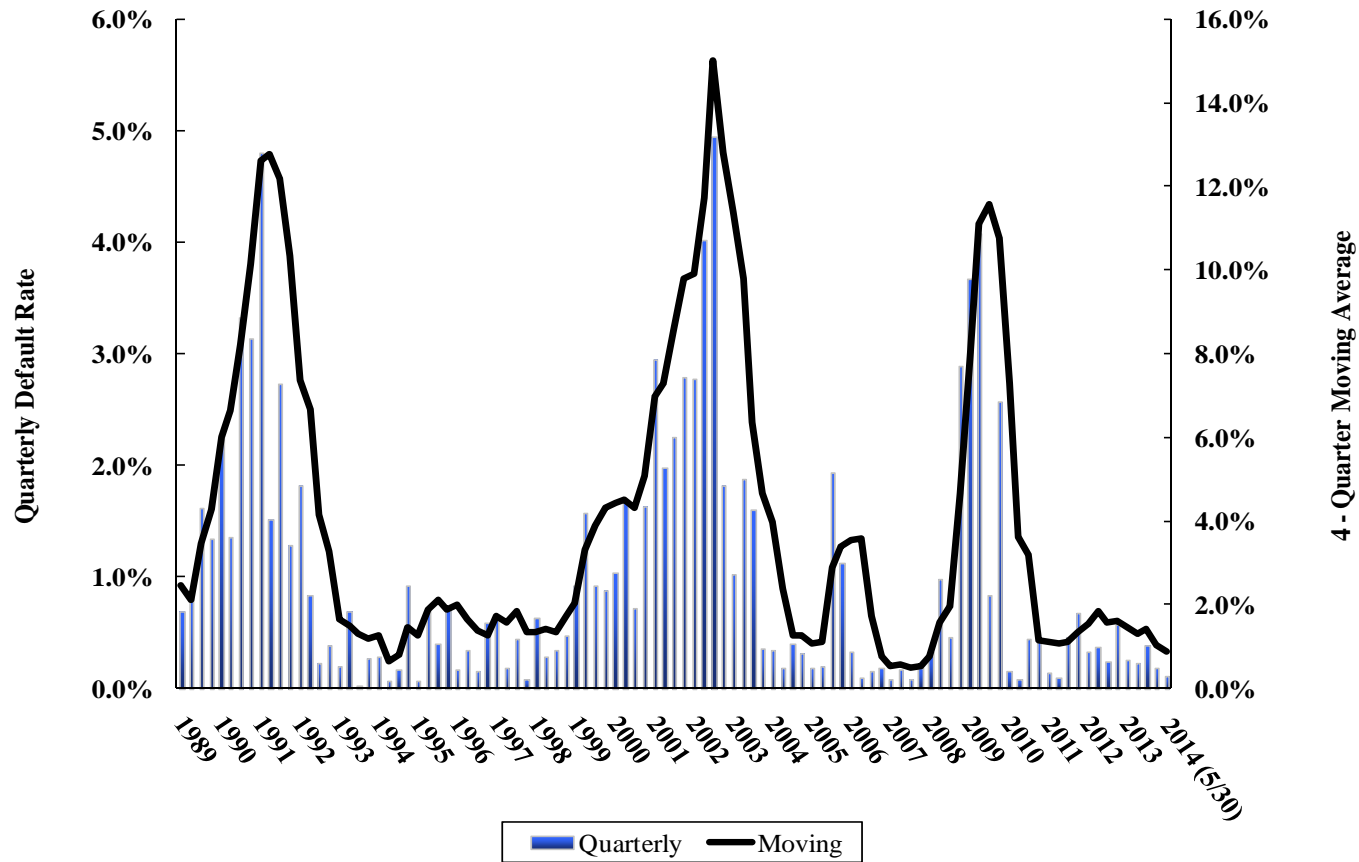
Year	Par Value Outstanding* (\$)	Par Value Defaults (\$)	Default Rates (%)
1986	90,243	3,156	3.497
1985	58,088	992	1.708
1984	40,939	0.840	0.840
1983	27,492	1.095	1.095
1982	18,109	3.186	3.186
1981	17,115	0.158	0.158
1980	14,935	1.500	1.500
1979	10,356	0.193	0.193
1978	8,946	1.330	1.330
1977	8,157	4.671	4.671
1976	7,735	0.388	0.388
1975	7,471	2.731	2.731
1974	10,894	1.129	1.129
1973	7,824	0.626	0.626
1972	6,928	2.786	2.786
1971	6,602	1.242	1.242
			Standard Deviation (%)
Arithmetic Average Default Rate (%)			
1971 to 2013		3.141	3.129
1978 to 2013		3.374	3.312
1985 to 2013		3.903	3.459
Weighted Average Default Rate (%)*			
1971 to 2013		3.606	
1978 to 2013		3.612	
1985 to 2013		3.631	
Median Annual Default Rate (%)			
1971 to 2013		1.621	

^a Weighted by par value of amount outstanding for each year.

Source: Author's compilation and Citigroup/Credit Suisse estimates

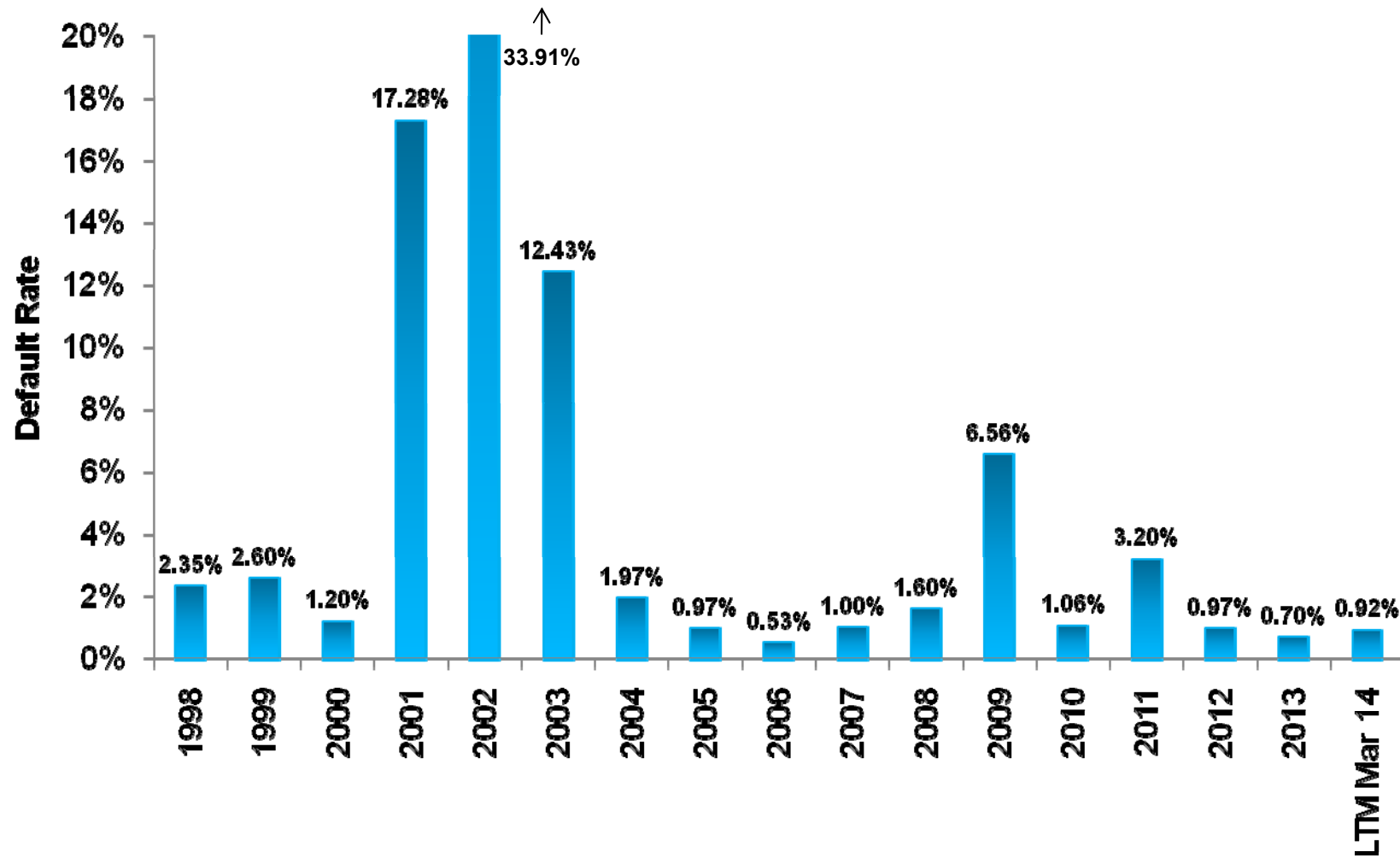
Default Rates on High-Yield Bonds

QUARTERLY DEFAULT RATE AND FOUR QUARTER MOVING AVERAGE
1989 – 2014 (5/30)



Source: Author's Compilations

Historical European High-Yield Default Rates



Source: Credit Suisse

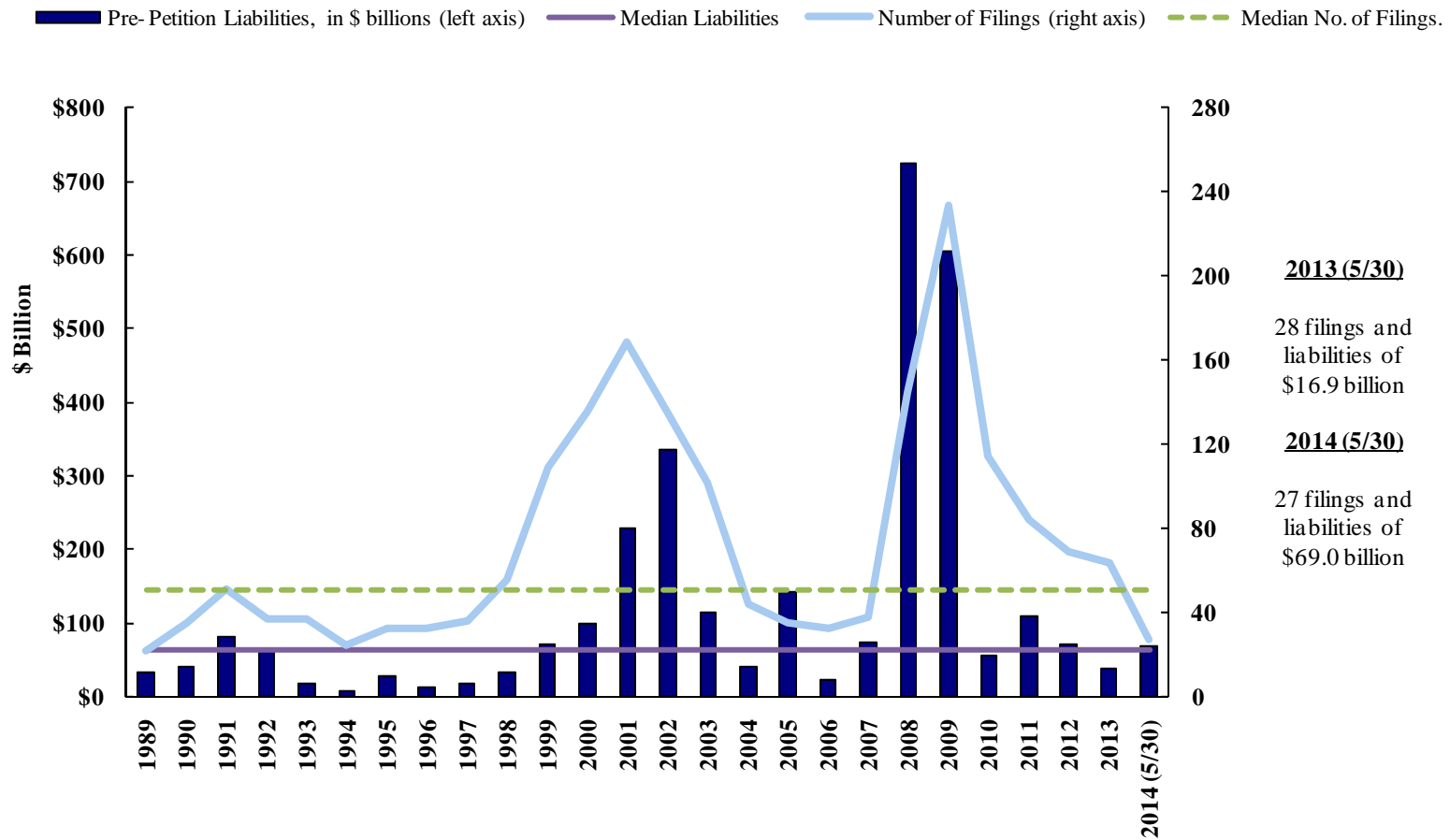
Trends in Bankruptcy Filings

Source: Edward I. Altman, “The Role of Distressed Debt Markets, Hedge Funds and Recent Trends in Bankruptcy on the Outcomes of Chapter 11 Reorganizations”, *ABI Law Review* forthcoming February 2014

Filings for Chapter 11

Number of Filings and Pre-petition Liabilities of Filing Companies

1989 – 2014 (5/30)



Note: Minimum \$100 million in liabilities
Source: NYU Salomon Center Bankruptcy Filings Database

Mean 1989-2013: 75 filings
Median 1989-2013: 51 filings

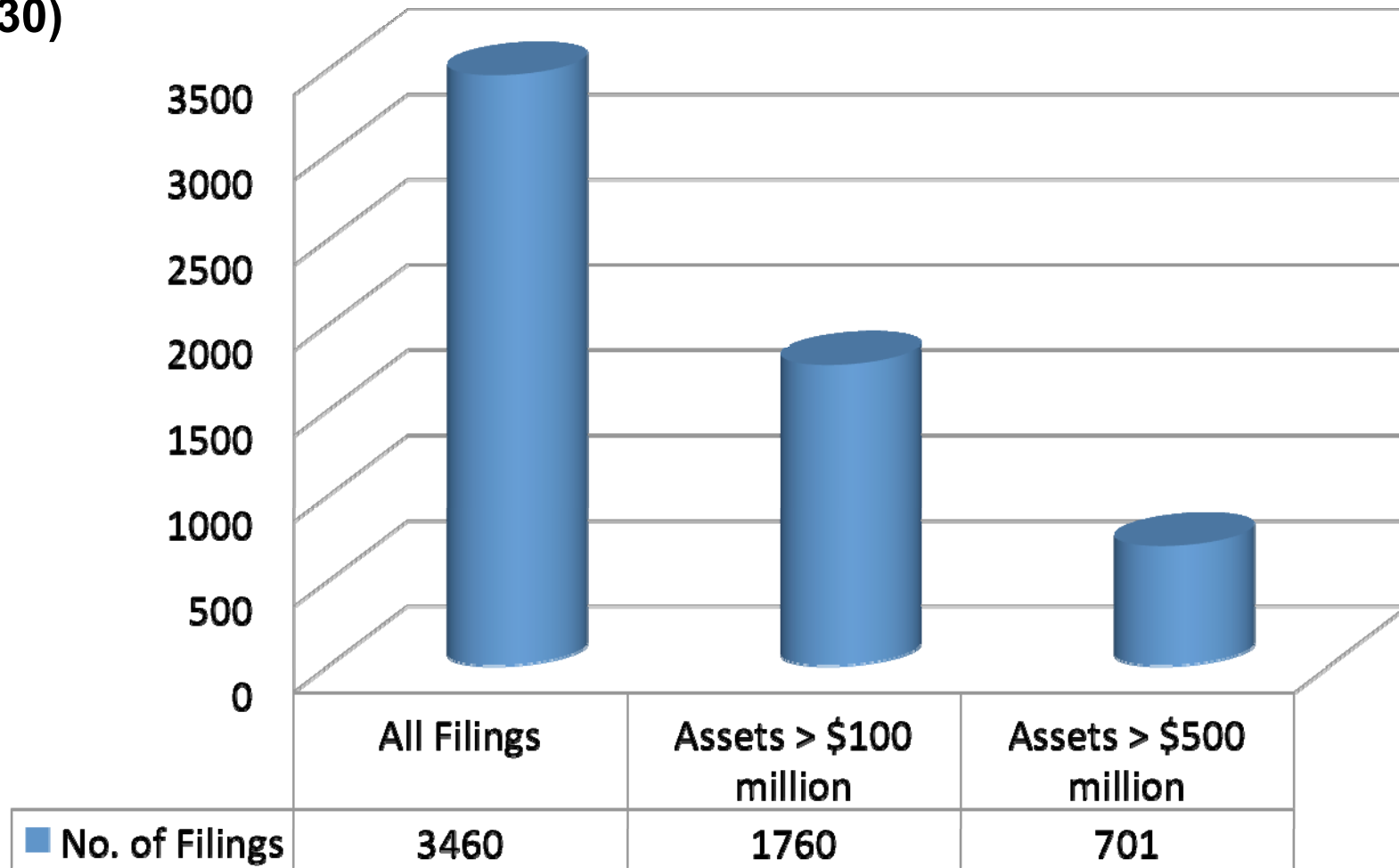
Chapter 11 Filing Statistics

Year	Number of Filings	Pre-Petition Liabilities (\$ billions)	Number of Filings ≥ \$1B	≥\$1B/Total Filings (%)
1989	22	33,539	10	45
1990	35	41,115	10	29
1991	51	81,158	11	22
1992	37	64,224	14	38
1993	37	17,701	4	11
1994	24	8,396	1	4
1995	32	27,153	7	22
1996	32	11,687	0	0
1997	36	18,866	5	14
1998	56	32,038	6	11
1999	109	70,957	19	17
2000	136	98,896	23	17
2001	169	228,604	38	22
2002	135	336,612	41	30
2003	102	115,172	26	25
2004	44	39,550	11	25
2005	35	142,625	11	31
2006	32	22,322	4	13
2007	38	72,646	8	21
2008	145	724,010	24	17
2009	234	603,992	50	21
2010	114	56,981	14	12
2011	84	109,119	7	8
2012	69	71,613	14	20
2013	64	38,157	10	16
2014 (5/30)	27	68,967	8	30
Mean No. of Filings, 1989-2013	75		15	20%
Median No. of Filings, 1989-2013	51		11	20%
Median No. of Filings, 1998-2013	93		14	
Mean Liabilities, 1989-2013		122,685		
Median Liabilities, 1989-2013		64,224		

Note: Minimum \$100 million in liabilities. Source: NYU Salomon Center Bankruptcy Filings Database

Chapter 11 Filings-Sample Characteristics

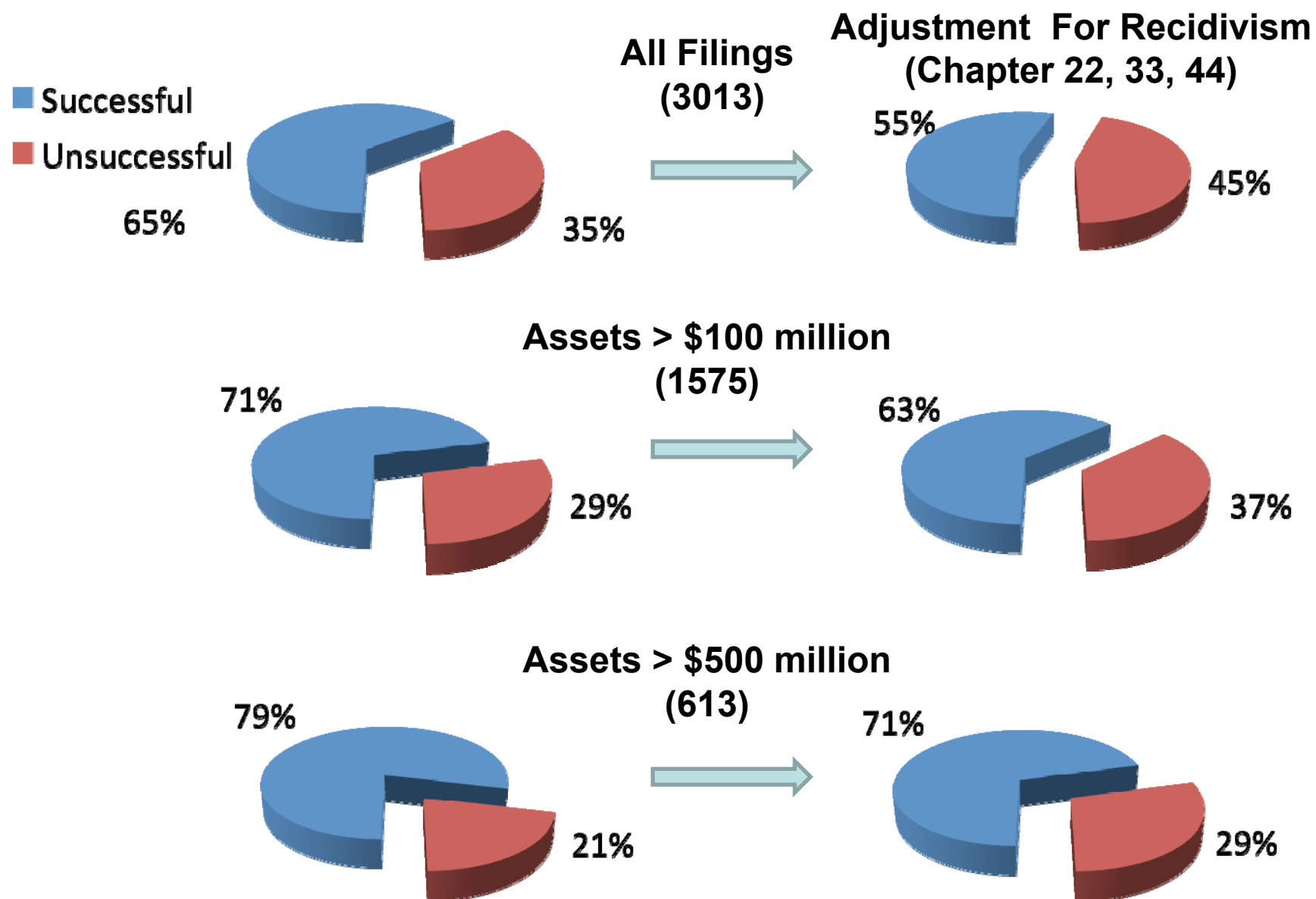
**1981-2013
(6/30)**



Successful vs Unsuccessful Chapter 11s

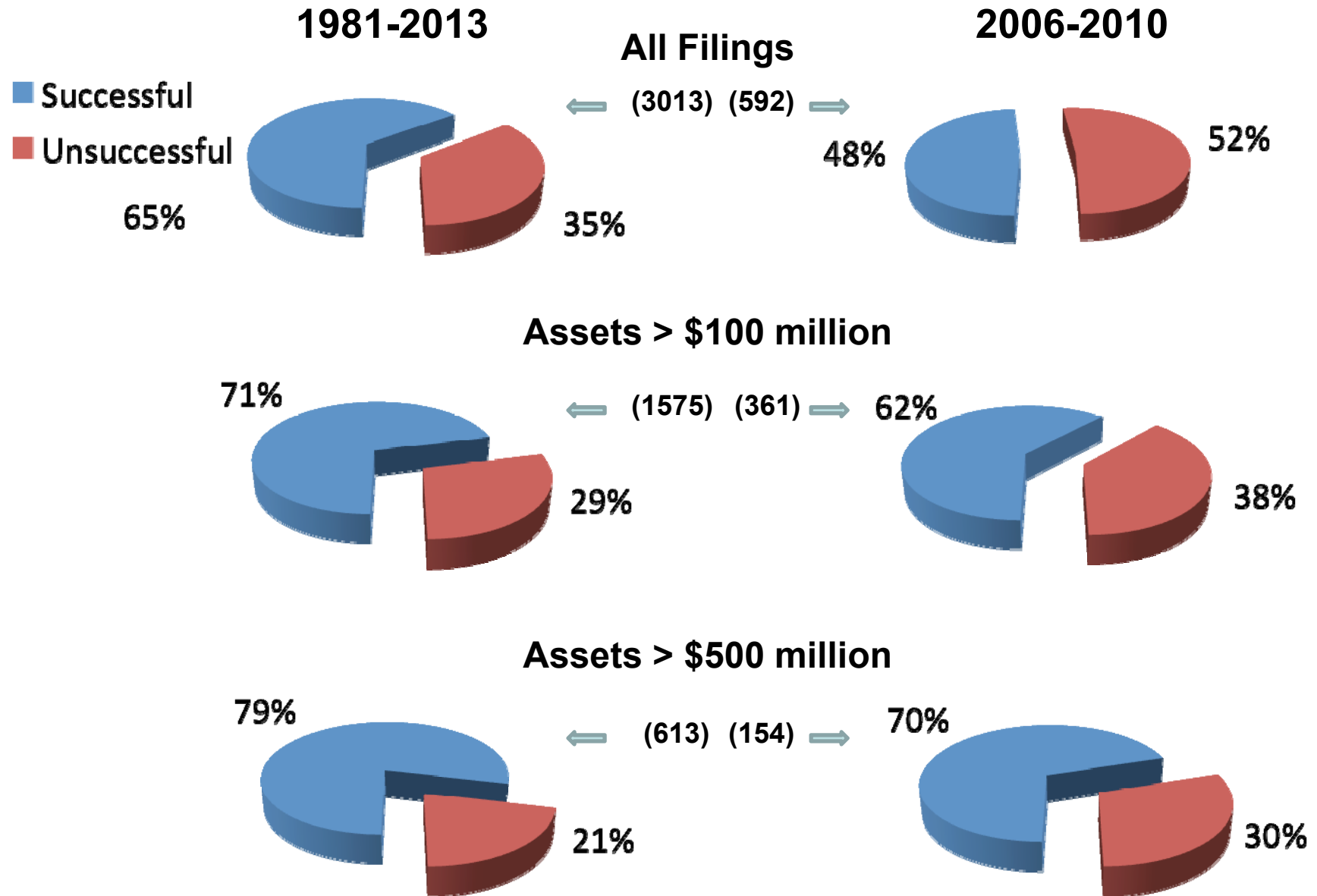
- Successful Chapter 11
 - Emergence from Chapter 11
 - Acquired in Chapter 11
- Unsuccessful Chapter 11
 - Conversion into Chapter 7
 - Liquidated under Chapter 11
- Adjustments made for Chapter 22,33,44

Success vs. Nonsuccess in Chapter 11 Reorganizations (Based on known outcomes)

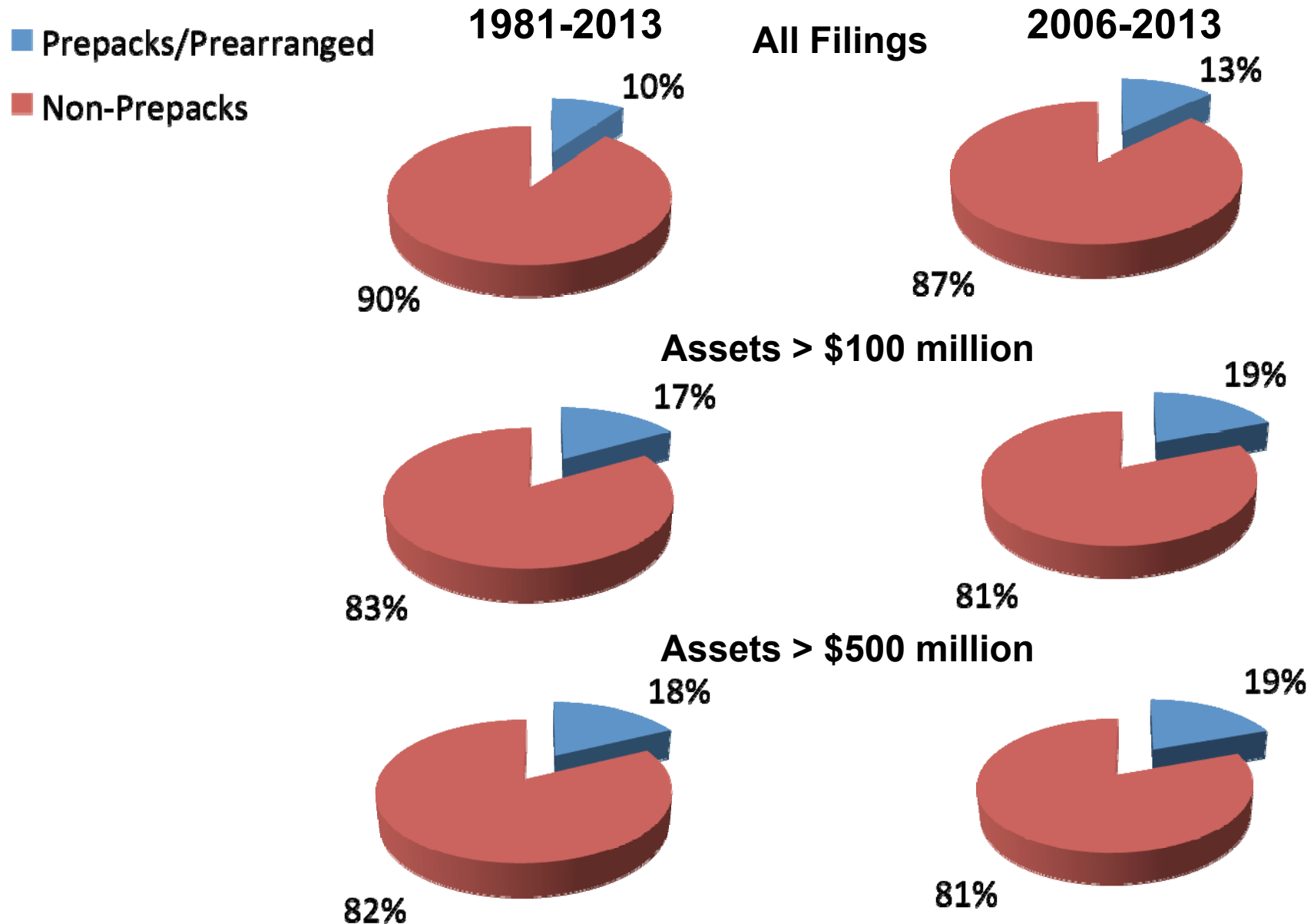


Success vs. Nonsuccess in Chapter 11 Reorganizations

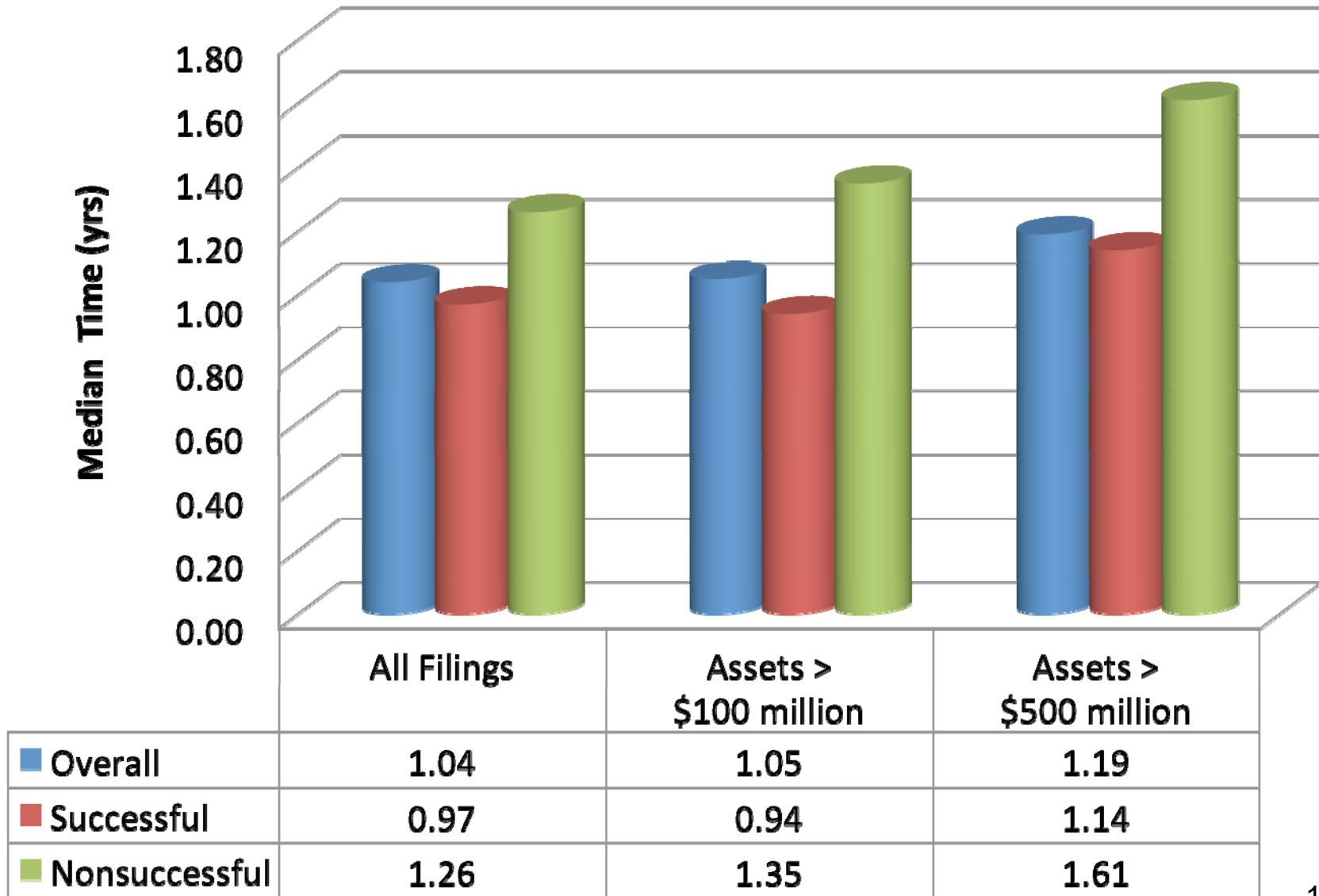
(Based on known outcomes, no adjustments for recidivism)



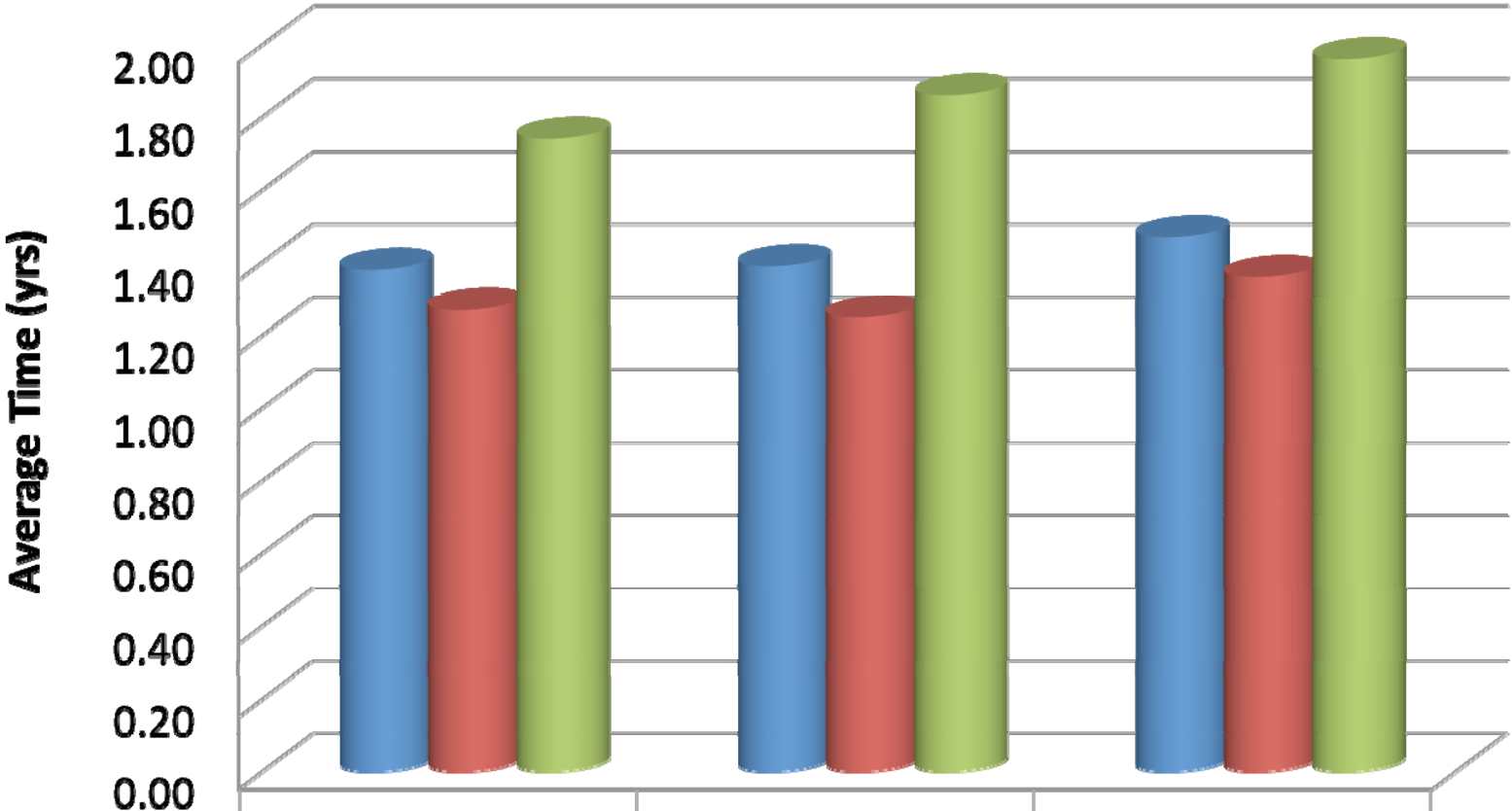
Prepacks/Prearranged vs Non-Prepacks among Non-Dismissed Filings



Time in Bankruptcy : Median

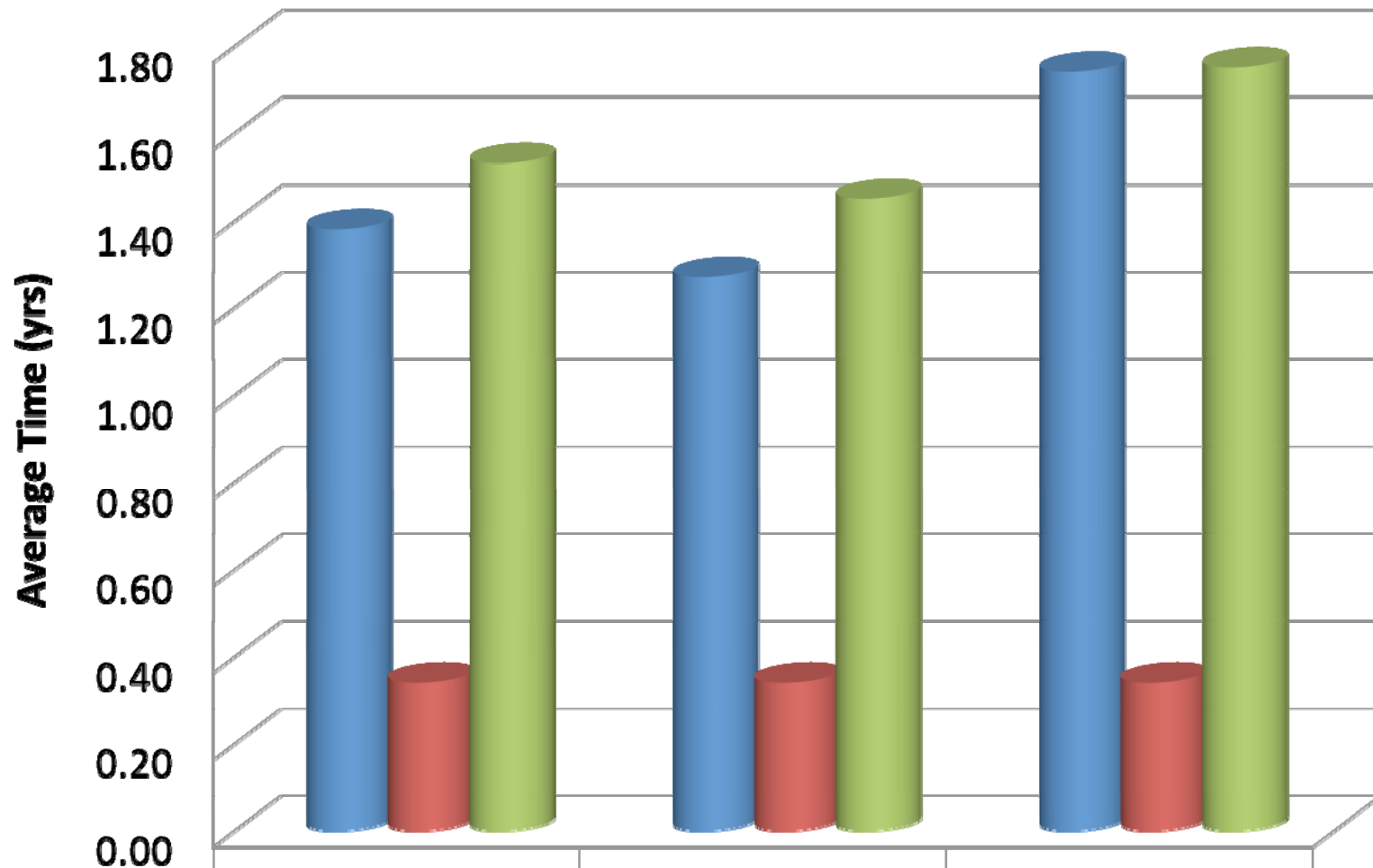


Time in Bankruptcy: Average



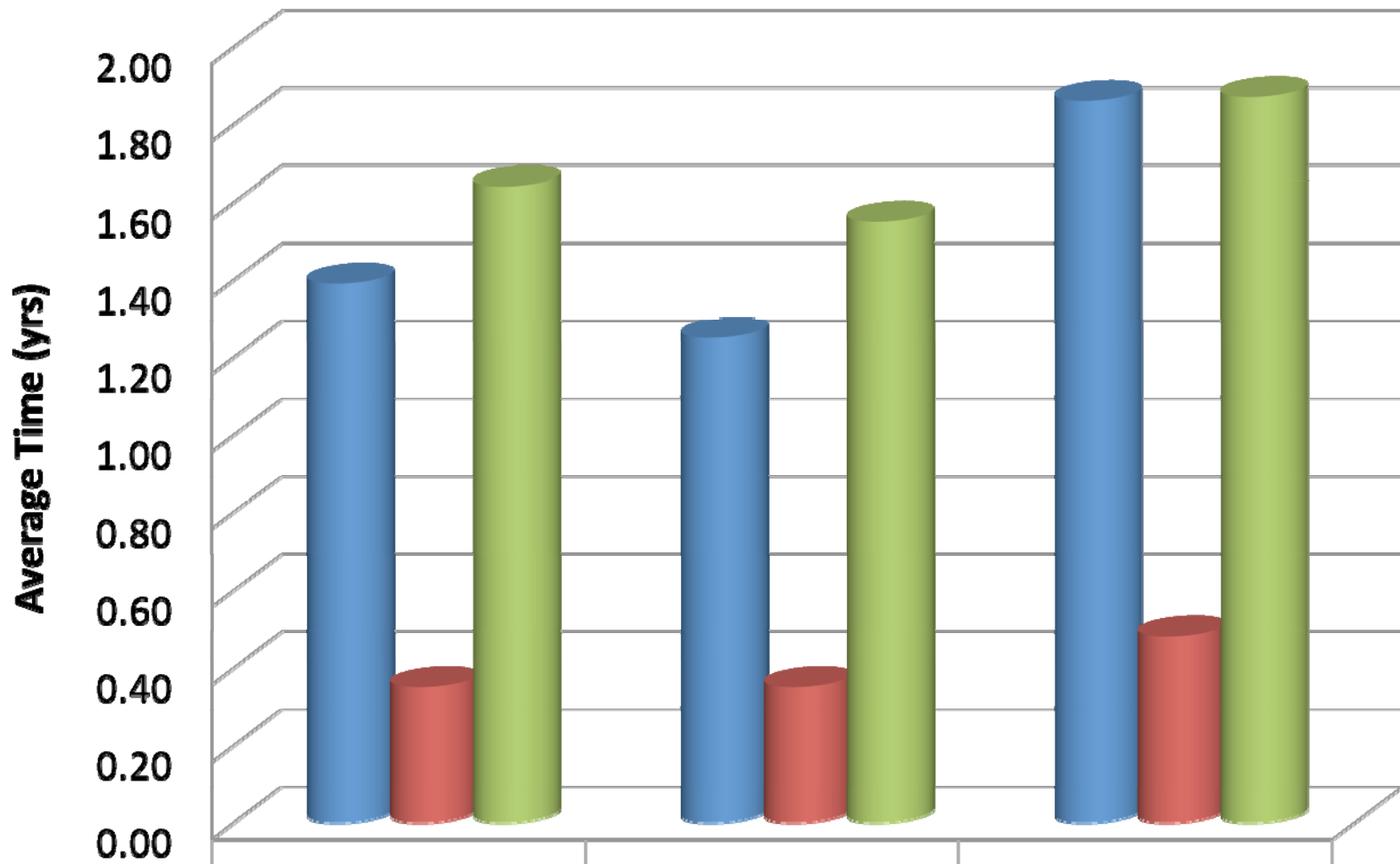
	All Filings	Assets > \$100 million	Assets > \$500 million
Overall	1.38	1.39	1.47
Successful	1.27	1.25	1.36
Nonsuccessful	1.74	1.86	1.96

Time in Bankruptcy: Average



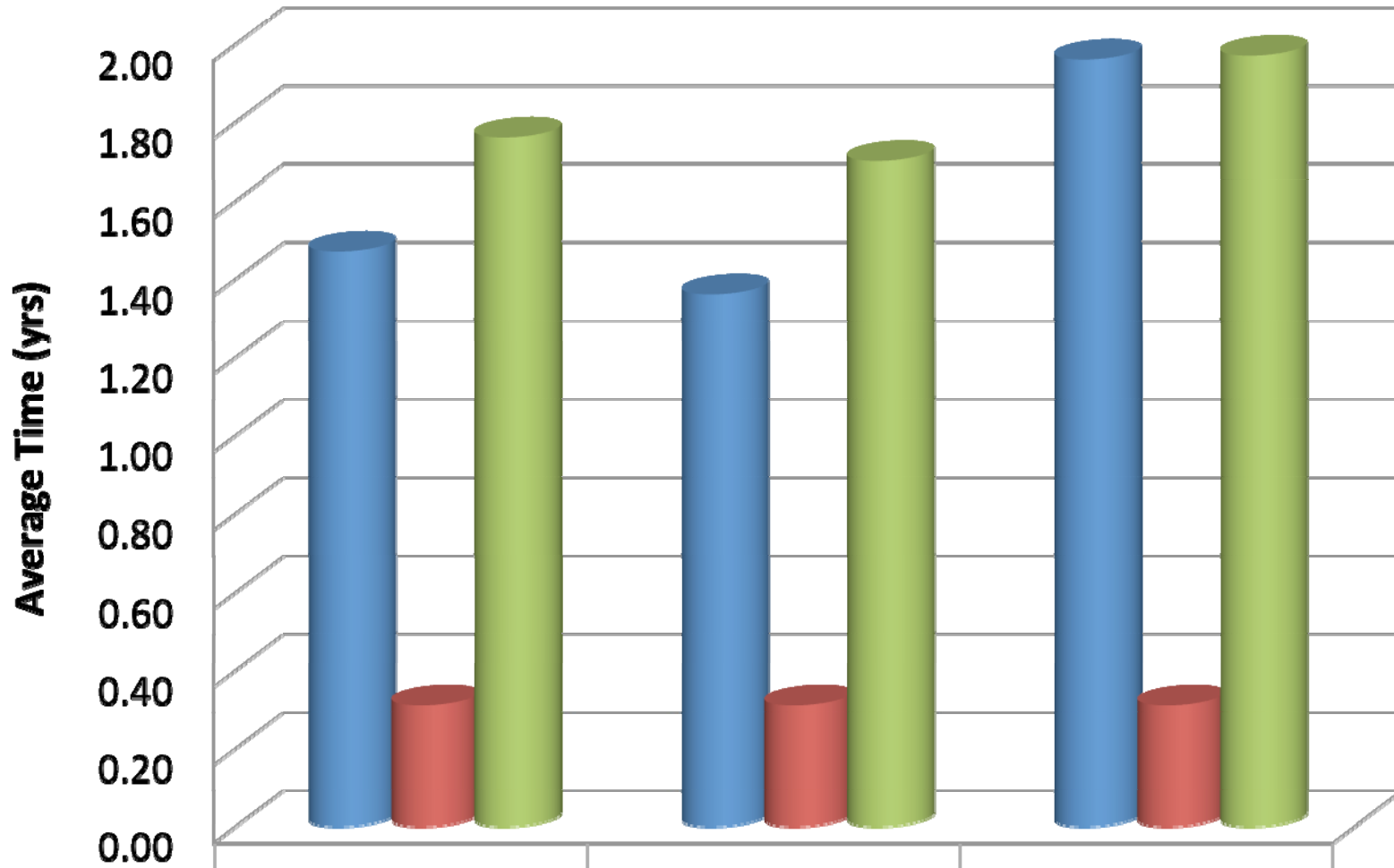
	All Outcomes	Successful	Nonsuccessful
Overall	1.38	1.27	1.74
Prepacks	0.34	0.34	0.34
Non-Prepacks	1.53	1.45	1.75

Time in Bankruptcy: Assets > \$100 Million



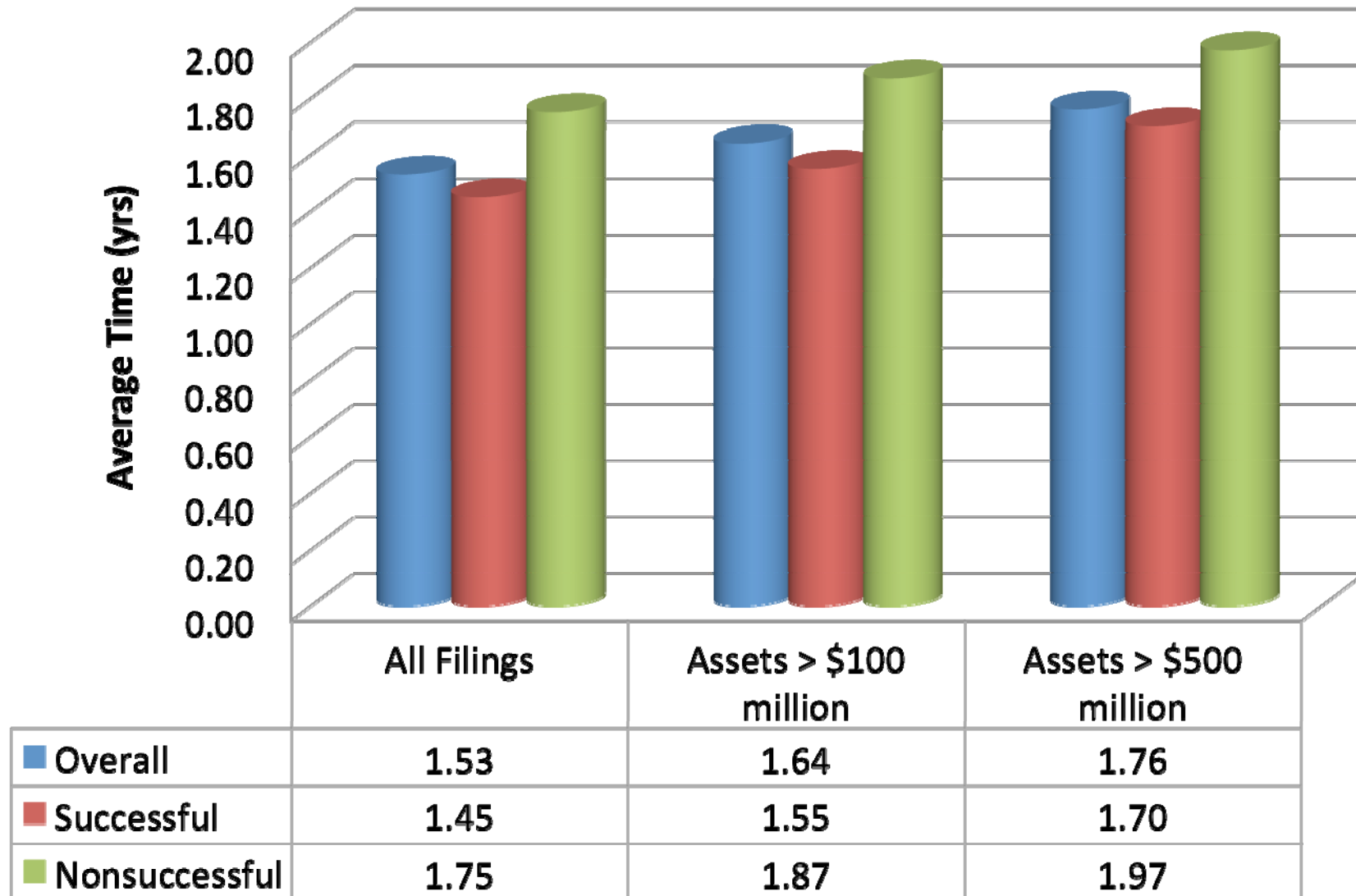
	All Outcomes	Successful	Nonsuccessful
Overall	1.39	1.25	1.86
Prepacks	0.35	0.35	0.48
Non-Prepacks	1.64	1.55	1.87

Time in Bankruptcy: Assets > \$500 Million



	All Outcomes	Successful	Nonsuccessful
Overall	1.47	1.36	1.96
Prepacks	0.31	0.31	0.31
Non-Prepacks	1.76	1.70	1.97

Time in Bankruptcy: Non-Prepack or Non-Prearranged



New Issuance: U.S. High Yield Bond Market (\$ millions)

2005 – 2014 (5/30)

Annual	Total	Ratings				
		BB	B	CCC	(% H.Y.)	NR
2005	81,541.8	18,615.0	45,941.2	15,750.9	(19.3%)	1,234.7
2006	131,915.9	37,761.2	67,377.3	25,319.2	(19.2%)	1,458.2
2007	132,689.1	23,713.2	55,830.8	49,627.6	(37.4%)	3,517.5
2008	50,747.2	12,165.0	25,093.1	11,034.4	(21.7%)	2,454.6
2009	127,419.3	54,273.5	62,277.4	10,248.4	(8.0%)	620.0
2010	229,307.4	74,189.9	116,854.7	35,046.8	(15.3%)	3,216.1
2011 (1Q)	68,600.3	10,266.0	45,342.5	10,145.0	(14.8%)	2,846.8
(2Q)	62,846.7	16,492.7	38,849.0	7,505.0	(11.9%)	0.0
(3Q)	22,853.9	10,650.0	9,568.9	2,460.0	(10.8%)	175.0
(4Q)	30,270.0	17,125.0	11,880.0	1,265.0	(4.2%)	0.0
2011 Totals	184,571.0	54,533.8	105,640.4	21,375.0	(11.6%)	3,021.8
2012 (1Q)	75,462.0	26,071.1	36,003.0	11,362.9	(15.1%)	2,025.0
(2Q)	40,748.9	9,589.2	21,724.5	6,583.1	(16.2%)	2,852.0
(3Q)	86,806.5	23,529.1	46,640.0	16,092.4	(18.5%)	545.0
(4Q)	77,432.9	12,662.7	49,243.5	14,651.7	(18.9%)	875.0
2012 Totals	280,450.3	71,852.1	153,611.1	48,690.2	(17.4%)	6,297.0
2013 (1Q)	73,492.3	31,953.1	29,534.2	11,480.0	(15.6%)	525.0
(2Q)	62,135.0	24,380.0	23,665.0	13,790.0	(22.2%)	300.0
(3Q)	73,770.8	22,964.2	32,610.0	18,196.6	(24.7%)	0.0
(4Q)	60,936.8	24,050.0	22,686.8	14,175.0	(23.3%)	25.0
2013 Totals	270,334.8	103,347.3	108,495.9	57,641.6	(21.3%)	850.0
2014 (1Q)	51,634.7	17,585.0	25,792.2	7,842.5	(15.2%)	415.0
(4/1-5/30)	50,641.0	20,493.7	15,327.3	14,705.0	(29.0%)	115.0

Source: Bank of America Merrill Lynch

Mortality Rates by Original Rating

All Rated Corporate Bonds* 1971-2013

Years After Issuance

		1	2	3	4	5	6	7	8	9	10
AAA	Marginal	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%	0.01%	0.00%	0.00%	0.00%
	Cumulative	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	0.04%	0.04%	0.04%	0.04%
AA	Marginal	0.00%	0.00%	0.23%	0.09%	0.02%	0.01%	0.01%	0.01%	0.02%	0.01%
	Cumulative	0.00%	0.00%	0.23%	0.32%	0.34%	0.35%	0.36%	0.37%	0.39%	0.40%
A	Marginal	0.01%	0.04%	0.14%	0.15%	0.12%	0.08%	0.02%	0.27%	0.09%	0.06%
	Cumulative	0.01%	0.05%	0.19%	0.34%	0.46%	0.54%	0.56%	0.83%	0.92%	0.98%
BBB	Marginal	0.35%	2.40%	1.30%	1.02%	0.52%	0.25%	0.28%	0.16%	0.16%	0.34%
	Cumulative	0.35%	2.74%	4.01%	4.99%	5.48%	5.72%	5.98%	6.13%	6.28%	6.60%
BB	Marginal	0.96%	2.05%	3.92%	1.98%	2.35%	1.50%	1.48%	1.13%	1.47%	3.16%
	Cumulative	0.96%	2.99%	6.79%	8.64%	10.79%	12.12%	13.42%	14.40%	15.66%	18.33%
B	Marginal	2.88%	7.75%	7.88%	7.82%	5.72%	4.48%	3.58%	2.10%	1.78%	0.78%
	Cumulative	2.88%	10.41%	17.47%	23.92%	28.27%	31.49%	33.94%	35.33%	36.48%	36.97%
CCC	Marginal	8.20%	12.45%	17.95%	16.30%	4.70%	11.55%	5.40%	4.86%	0.70%	4.32%
	Cumulative	8.20%	19.63%	34.06%	44.80%	47.40%	53.47%	55.99%	58.13%	58.42%	60.22%

*Rated by S&P at Issuance
Based on 2,779 issues

Source: Standard & Poor's (New York) and Author's Compilation

New Issuance: European High Yield Bond Market

Face Values (US\$)

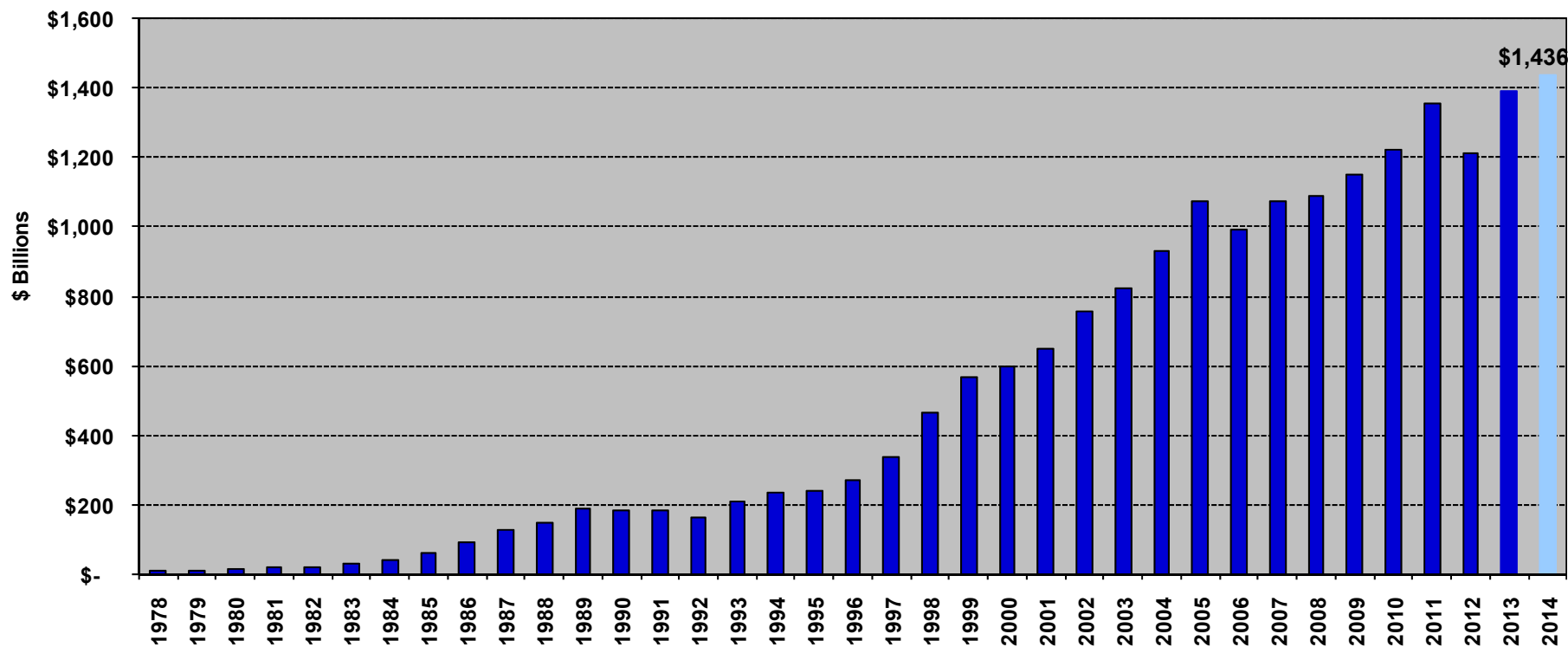
2005 – 2014 (5/30)

Annual	Total	Ratings				USD	EUR	GBP
		BB	B	CCC	NR			
2005	19,935.6	1,563.3	11,901.0	5,936.6	534.8	2,861.0	15,080.3	1,668.3
2006	27,714.6	5,696.2	16,292.1	5,020.5	705.9	7,657.8	19,935.7	121.1
2007	18,796.7	5,935.3	11,378.5	562.0	920.9	4,785.5	12,120.9	1,890.3
2008	1,250.0	1,250.0	25,093.1			1,250.0		
2009	41,510.3	18,489.4	16,697.4	4,771.3	1,552.2	12,315.0	28,696.9	498.3
2010	57,636.5	22,751.3	29,050.5	2,170.7	3,663.9	12,775.0	43,147.7	1,403.3
2011 (1Q)	25,750.6	9,272.6	14,610.6	1,867.5		7,775.0	14,215.0	3,191.3
(2Q)	27,636.1	9,682.6	14,516.6	1,845.3	1,591.5	7,645.0	14,045.7	5,651.1
(3Q)	4,211.2	3,418.7	792.5				4,211.2	
(4Q)	2,838.0	2,355.0		395.9	87.0	1,300.0	1,286.1	
2011 Totals	60,435.8	24,728.9	29,919.7	4,108.7	1,678.6	16,720.0	33,758.0	8,842.4
2012 (1Q)	21,788.3	8,904.1	11,003.0	1,734.6	146.6	8,945.0	10,783.0	1,108.2
(2Q)	9,075.8	2,086.4	6,296.0	693.4		4,080.0	4,179.3	816.5
(3Q)	17,733.2	9,138.4	4,122.4	2,652.5	1,820.0	6,350.0	10,399.2	241.2
(4Q)	16,918.8	6,872.9	7,591.7	2,106.2	348.0	8,823.0	6,908.8	763.5
2012 Totals	65,516.1	27,001.7	29,013.0	7,186.7	2,314.6	28,198.0	32,270.4	2,929.3
2013 (1Q)	27,954.5	6,783.8	15,008.4	5,160.6	1,001.7	10,050.0	12,380.7	4,837.4
(2Q)	30,335.3	6,860.2	19,295.1	3,724.1	455.9	9,913.0	14,149.9	6,074.0
(3Q)	16,558.4	3,375.3	9,609.6	2,721.8	851.7	5,310.0	8,644.0	2,604.4
(4Q)	16,655.9	2,588.0	10,657.6	2,366.4	1,043.9	5,210.0	9,086.5	2,359.4
2013 Totals	91,504.1	19,607.3	54,435.2	13,972.9	3,353.2	30,483.0	44,125.6	15,875.3
2014 (1Q)	27,169.2	12,565.7	11,685.2	1,230.0	1,688.3	7,315.0	16,352.8	3,501.4
(4/01-5/30)	45,422.6	6,483.3	37,061.2	1,452.6	425.5	18,550.0	22,570.9	2,301.7

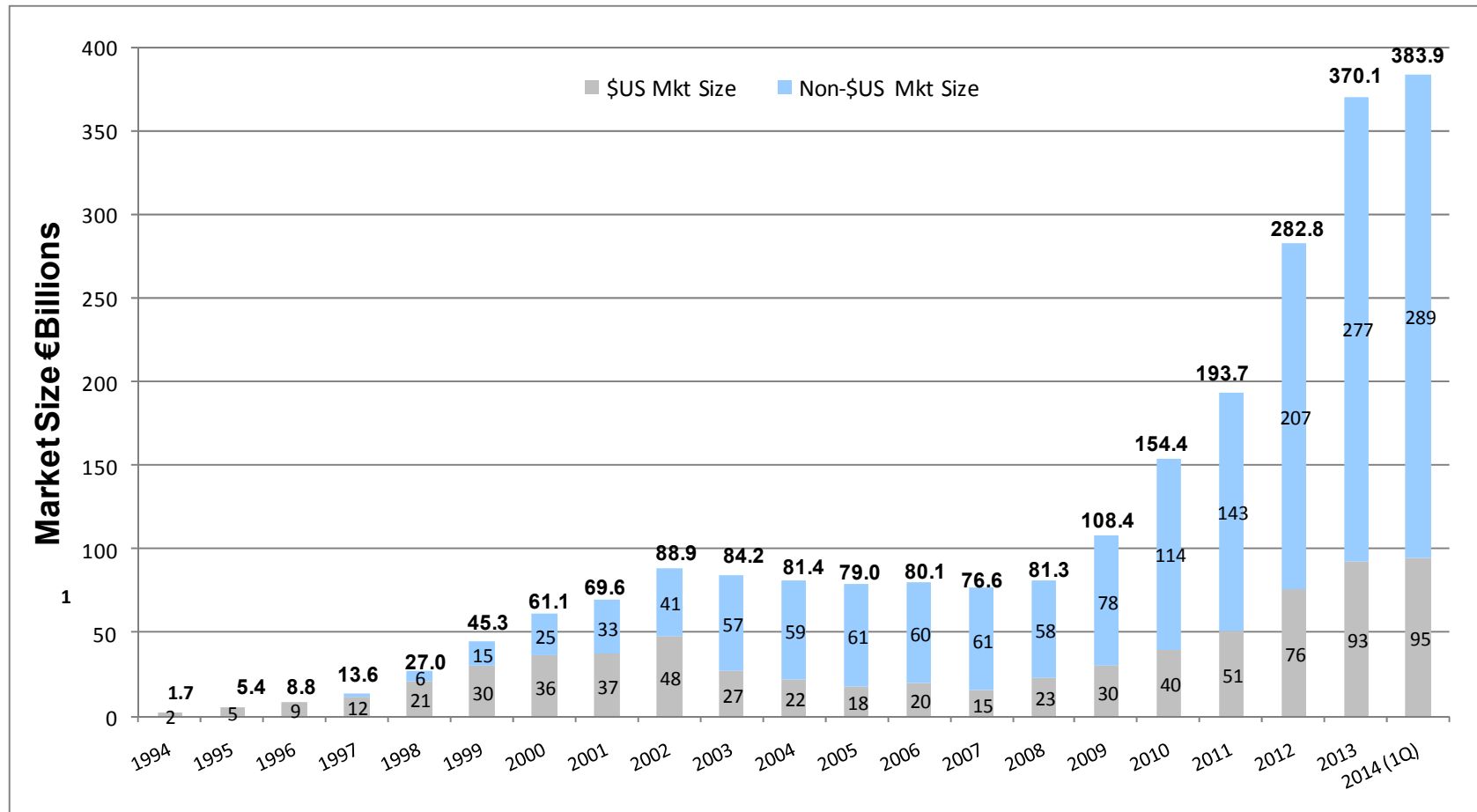
Source:
BoAML

Size of the US High-Yield Bond Market

1978 – 2013 (Mid-year US\$ billions)



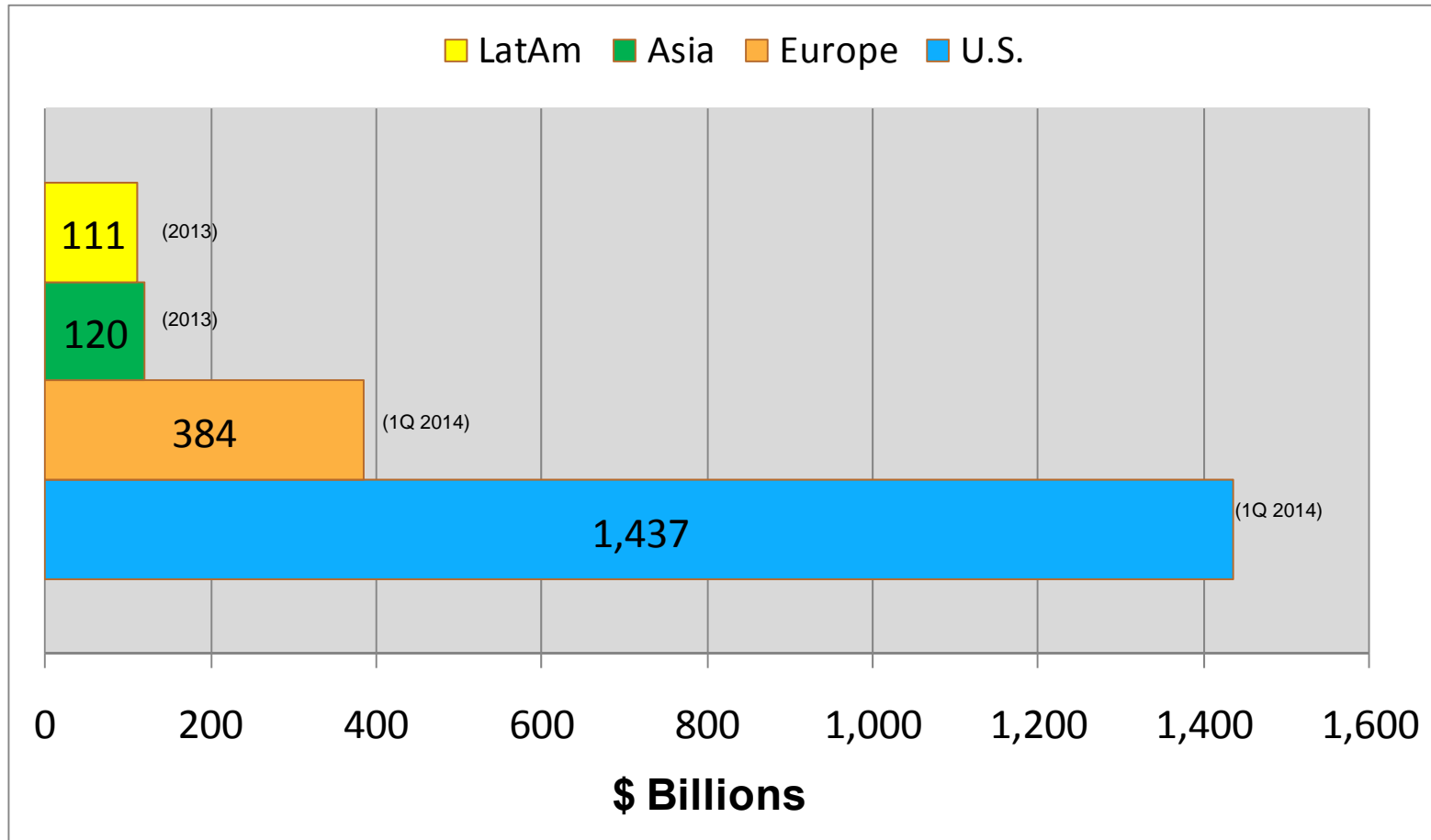
Size of Western European HY Market (€ Billions)



Includes non-investment grade straight corporate debt of issuers with assets located in or revenues derived from Western Europe, or the bond is denominated in a Western European currency. Floating-rate and convertible bonds and preferred stock are not included.

Source: Credit Suisse

Size of Corporate HY Bond Market: U.S., Europe, Latin America & Asia (ex. Japan) (\$ Billions)



Asian (ex. Japan) Corporate High-Yield Bond Market

	October 2013	June 2009
H.Y. Amt. Outstanding	USD 115 Billion	USD 32 Billion
# of Issuers	~ 130	n/a
# of Issues	~ 260	~ 95
Avg. Issue Size	~ USD 445 Million	~ USD 335 Million

Stronger Investment Grade and/or High-Yield Firm Balance Sheets?

Z-Score Component Definitions and Weightings

Variable	Definition	Weighting Factor
X_1	$\frac{\text{Working Capital}}{\text{Total Assets}}$	1.2
X_2	$\frac{\text{Retained Earnings}}{\text{Total Assets}}$	1.4
X_3	$\frac{\text{EBIT}}{\text{Total Assets}}$	3.3
X_4	$\frac{\text{Market Value of Equity}}{\text{Book Value of Total Liabilities}}$	0.6
X_5	$\frac{\text{Sales}}{\text{Total Assets}}$	1.0

Z" Score Model for Manufacturers, Non-Manufacturer Industrials; Developed and Emerging Market Credits

$$Z'' = 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4 + 3.25$$

$$X_1 = \frac{\text{Current Assets} - \text{Current Liabilities}}{\text{Total Assets}}$$

$$X_2 = \frac{\text{Retained Earnings}}{\text{Total Assets}}$$

$$X_3 = \frac{\text{Earnings Before Interest and Taxes}}{\text{Total Assets}}$$

$$X_4 = \frac{\text{Book Value of Equity}}{\text{Total Liabilities}}$$

Comparing Financial Strength of High-Yield Bond Issuers in 2007 & 2012

Number of Firms		
	Z-Score	Z''-Score
2007	277	383
2012	404	488

Year	Average Z-Score/ (BRE)*	Median Z-Score/ (BRE)*	Average Z''-Score/ (BRE)*	Median Z''-Score/ (BRE)*	
2007	1.89 (B)	1.81 (B)	4.58 (B+)	4.61 (B+)	
2012	1.66 (B)	1.59 (B)	4.60 (B+)	4.60 (B+)	
Difference in Means Test (2007 vs 2012)					
Model	Average Difference	Standard Deviation (2007/2012)	t-test	Significance Level	Significant at .05?
Z-Score	-0.23	1.29 / 1.15	-2.38	0.88%	Yes
Z''-Score	+0.02	2.50 / 2.07	+0.13	44.68%	No

*Bond Rating Equivalent

Source: Authors' calculations, data from Altman and Hotchkiss (2006) and S&P Capital IQ.

Comparing Financial Strength of Investment Grade Bond Issuers in 2007 & 2012

Number of Firms		
	Z-Score	Z''-Score
2007	324	349
2012	432	457

Year	Average Z-Score/ (BRE)*	Median Z-Score/ (BRE)*	Average Z''-Score/ (BRE)*	Median Z''-Score/ (BRE)*	
2007	2.84 (BBB)	2.59 (BB+)	5.60 (BBB-)	5.56 (BBB-)	
2012	2.60 (BB+)	2.36 (BB)	5.64 (BBB-)	5.65 (BBB-)	
Difference in Means Test (2007 vs 2012)					
Model	Average Difference	Standard Deviation (2007/2012)	t-test	Significance Level	Significant at .05?
Z-Score	-0.24	1.86 / 1.61	-1.80	3.59%	Yes
Z''-Score	+0.04	2.51 / 2.17	+0.22	41.43%	No

*Bond Rating Equivalent

Source: Authors' calculations, data from Altman and Hotchkiss (2006) and S&P Capital IQ.

Average Z-Score by S&P Bond Rating

Rating	Average Z-Score	Standard Deviation
AAA	6.2	2.1
AA	4.7	2.4
A	3.7	2.3
BBB	2.8	1.5
BB	2.4	1.9
B	1.8	1.9
CCC	0.3	1.2
D	-0.2	2.5

Average Z''-Score by S&P Bond Rating

Rating	Average Z''-Score	Rating	Average Z''-Score
AAA	8.15	BB+	5.25
AA+	7.60	BB	4.95
AA	7.30	BB-	4.75
AA-	7.00	B+	4.50
A+	6.85	B	4.15
A	6.65	B-	3.75
A-	6.40	CCC+	3.20
BBB+	6.25	CCC	2.50
BBB	5.85	CCC-	1.75
BBB-	5.65	D	0.00

Comparing Measures of Liquidity, Solvency, Profitability and Leverage of High-Yield Bond Firms, 2007 versus 2012

Ratio	Average 2007	Average 2012	Change	Significant at .05
<u>Current Assets – Current Liabilities</u> Total Assets	0.10	0.11	+0.01	No
<u>Cash & Equivalents</u> Total Debt	0.21	0.21	-0.00	No
<u>Cash & Equiv & S.T. Inv.</u> Total Debt	0.24	0.25	+0.01	No
<u>Retained Earnings</u> Total Assets	-0.08	-0.10	-0.02	No
<u>EBIT</u> Total Assets	0.07	0.07	+0.00	No
<u>EBIT</u> Cash Interest	2.68	2.94	+0.25	No
<u>Market Value Equity</u> Total Liabilities	1.16	1.00	-0.16	Yes
<u>Book Value Equity</u> Total Liabilities	0.47	0.47	+0.00	No

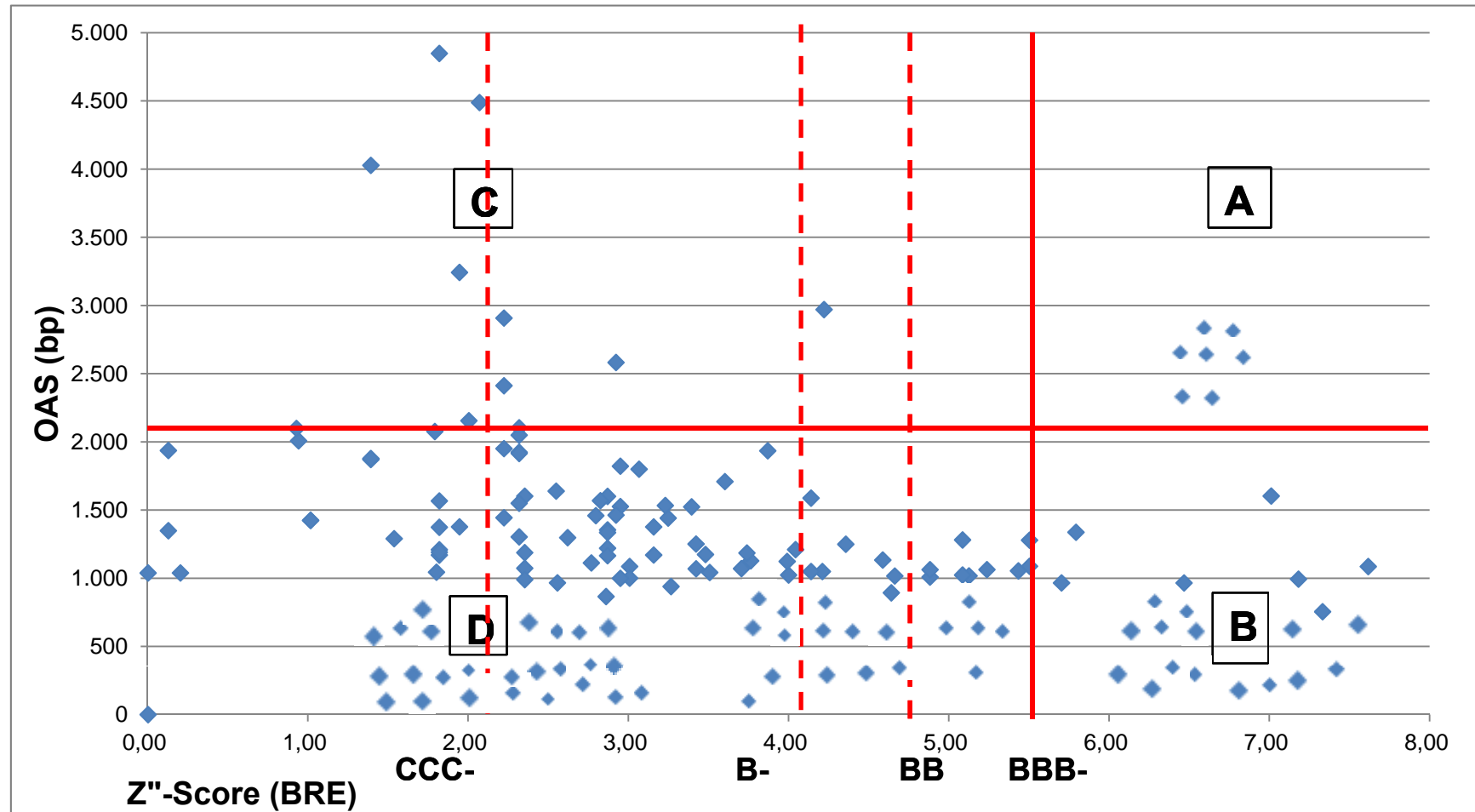
Comparing Measures of Liquidity, Solvency, Profitability and Leverage of Investment Grade Bond Firms, 2007 versus 2012

Ratio	Average 2007	Average 2012	Average Change	Significant at .05
<u>Current Assets – Current Liabilities</u> Total Assets	0.05	0.07	+0.02	Yes
<u>Cash & Equivalents</u> Total Debt	0.30	0.36	+0.06	Yes
<u>Cash & Equiv & S.T. Inv.</u> Total Debt	0.12	0.19	+0.07	Yes
<u>Retained Earnings</u> Total Assets	0.16	0.12	-0.04	Yes
<u>EBIT</u> Total Assets	0.11	0.10	-0.01	No
<u>EBIT</u> Cash Interest	6.33	6.73	+0.40	No
<u>Market Value Equity</u> Total Liabilities	2.23	2.00	-0.23	No
<u>Book Value Equity</u> Total Liabilities	0.74	0.81	+0.07	No

Quality Junk Strategy

Return/Risk Tradeoffs - Distressed & High-Yield Bonds

As of December 31, 2012



$$Z'' = 3.25 + 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4$$

$$X1 = CA - CL / TA; X2 = RE / TA; X3 = EBIT / TA; X4 = BVE / TL$$

- A = Very High Return / Low Risk
- B = High Return / Low Risk
- C = Very High Return / High Risk 42
- D = High Return / High Risk

JUNK QUALITY STRATEGY
OR
SHORT HIGH-YIELD
STRATEGY

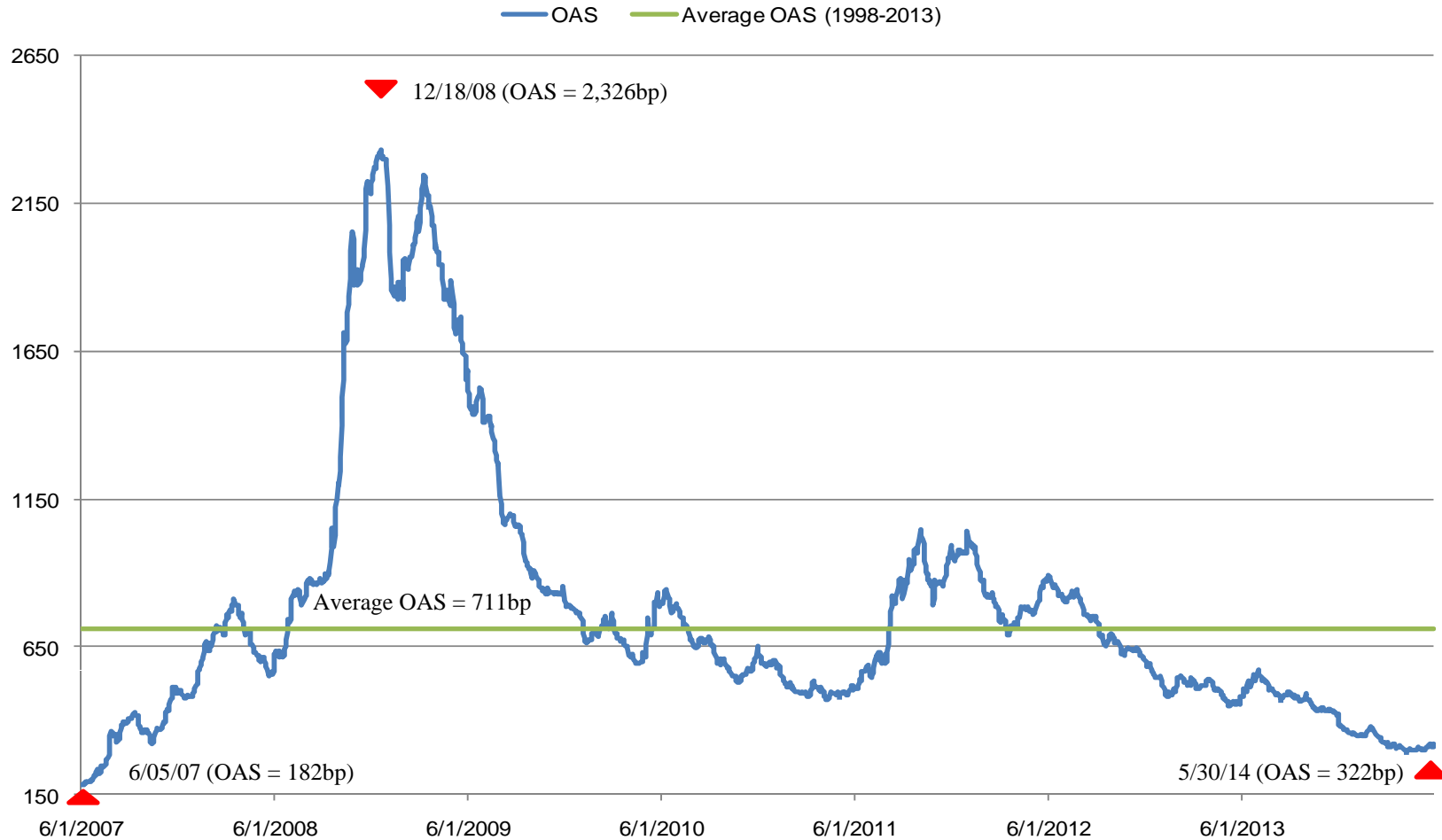
Major Risks Going Forward (For 2014)

- Global Economy Slowdown – Primarily U.S.: Impact on Default & Recovery Rates, Credit Availability & Credit Quality
 - China
 - Europe
 - South America
- Sovereign Debt Crisis – Europe (Asia? South America?)
 - Calm in Late 2012-2013
 - Looming Corporate Defaults Despite Low (2013) Default Rate?
 - Survival of the Euro?
 - Problems in India and Indonesia, Brazil?
- Fed Balance Sheet, Money Supply and Inflation
- LBO and Covenant-Lite Risk
- Role of Collateral in the Global Financial System
- Contagion Between Markets – Debt and Equity
- Increased Investor Leverage in Stock Markets Similar to 2007
- U.S. Municipal Bond & Federal Government Default Risk
- Uncertainties (non-quantifiable)

A Novel Approach to
Assessing Sovereign Debt
Default Risk

Euro High-Yield Option-Adjusted Spreads

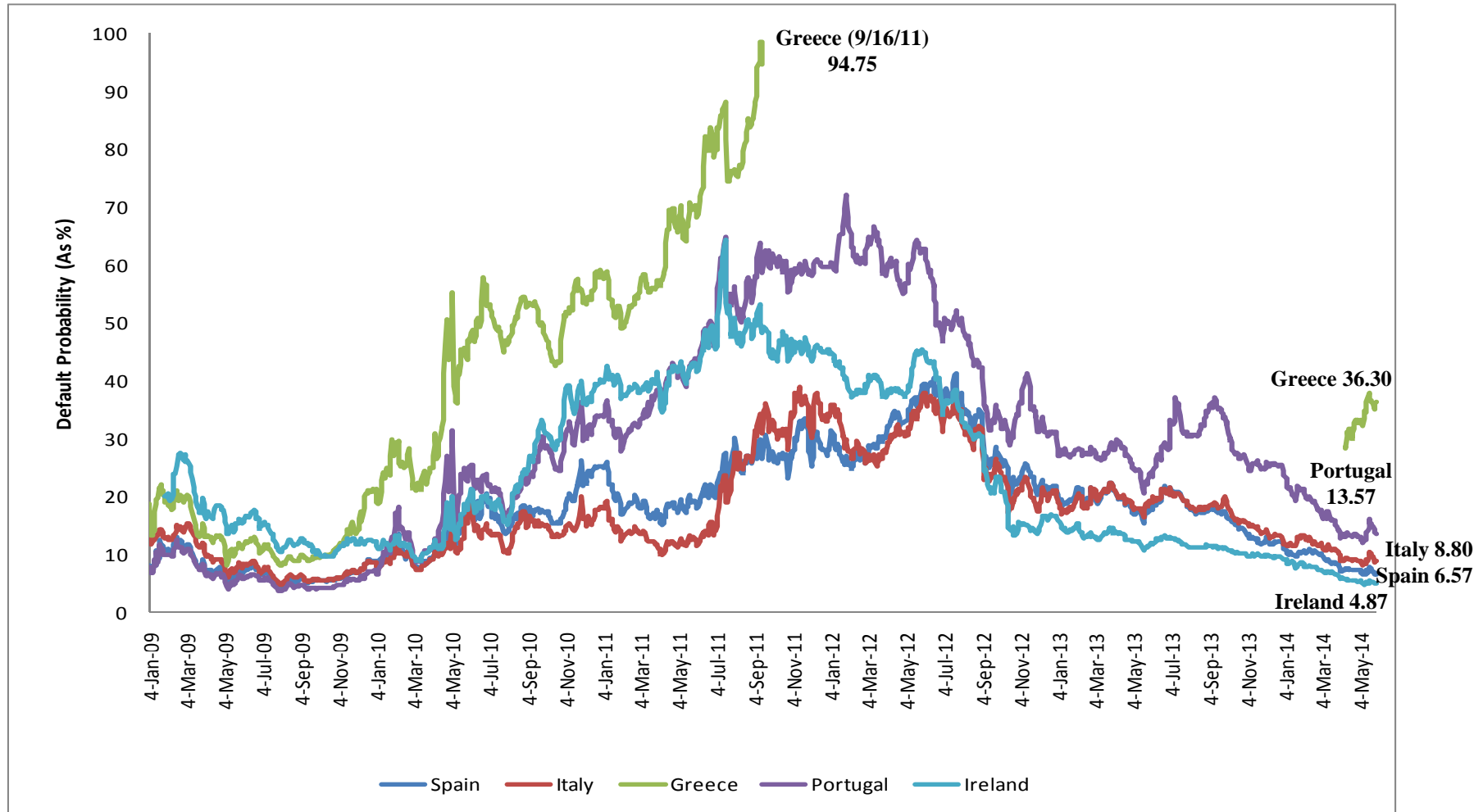
June 01, 2007 – May 30, 2014



Sources: Bank of America Merrill Lynch Index Data.

Five Year Implied Probabilities of Default (PD) From Capital Market CDS Spreads*

Jan. 2009 – May 30, 2014



*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{-5*s/(1-R)}$.

Source: Bloomberg

European (PIIGS) Government Benchmark Yields and Spreads

May 30, 2014

Country	5-Year Price	5-Year Yield %	5-Year Spread to Germany	10-Year Price	10-Year Yield %	10-Year Spread to Germany
Germany	100.35	0.43	n/a	101.33	1.36	n/a
Greece	99.85	4.78	4.35	79.13	6.21	4.85
Ireland	115.53	1.20	0.77	106.81	2.60	1.24
Italy	103.88	1.68	1.25	113.13	2.96*	1.60
Portugal	110.35	2.53	2.10	116.44	3.61	2.25
Spain	105.66	1.54	1.11	108.09	2.85*	1.49

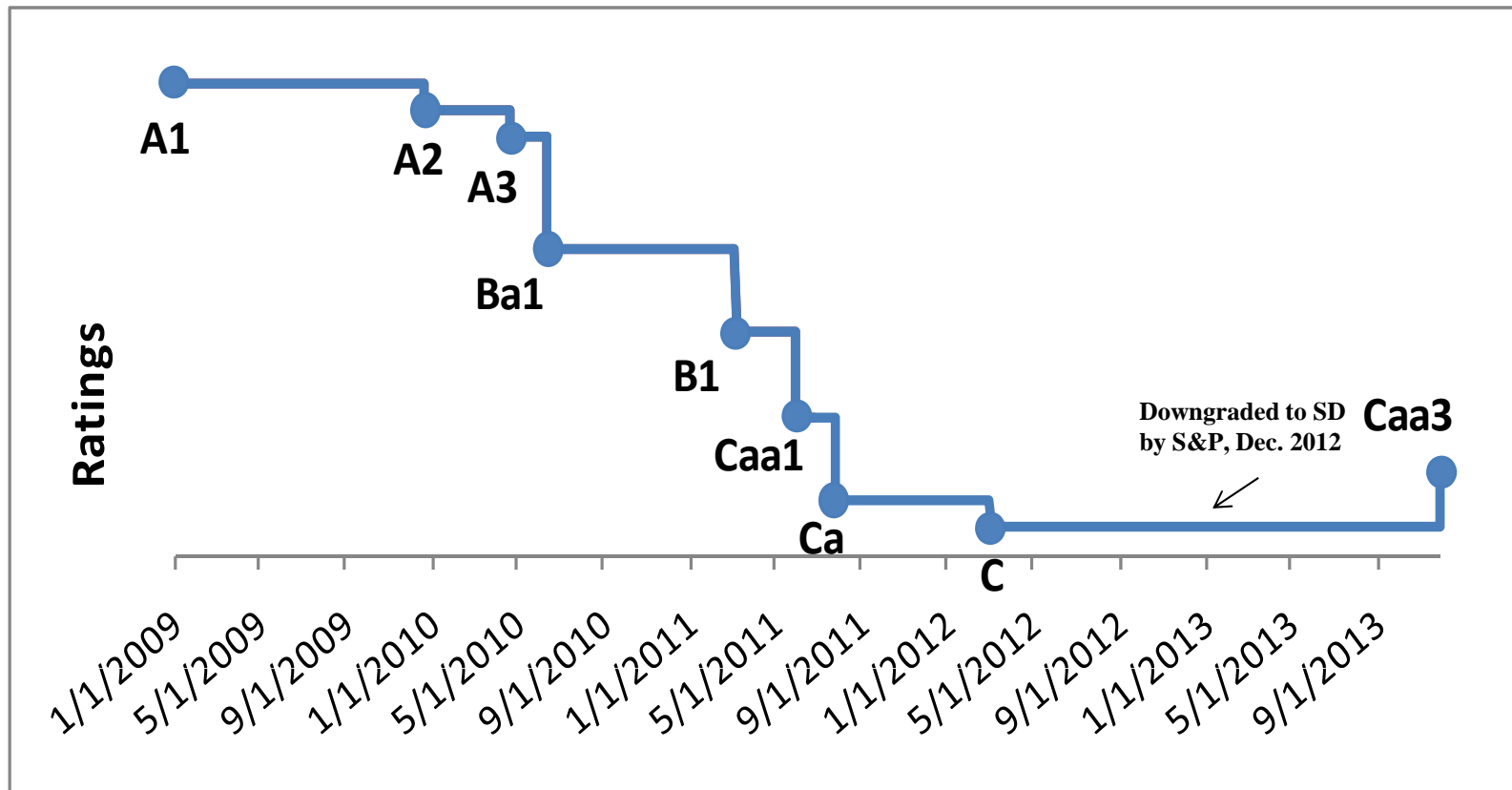
*10-Year Yield as of July 16, 2012 was 6.10% for Italy and 6.77% for Spain.

Source: Bloomberg

Sovereign Ratings Actions (Moody's)

2009 - Present

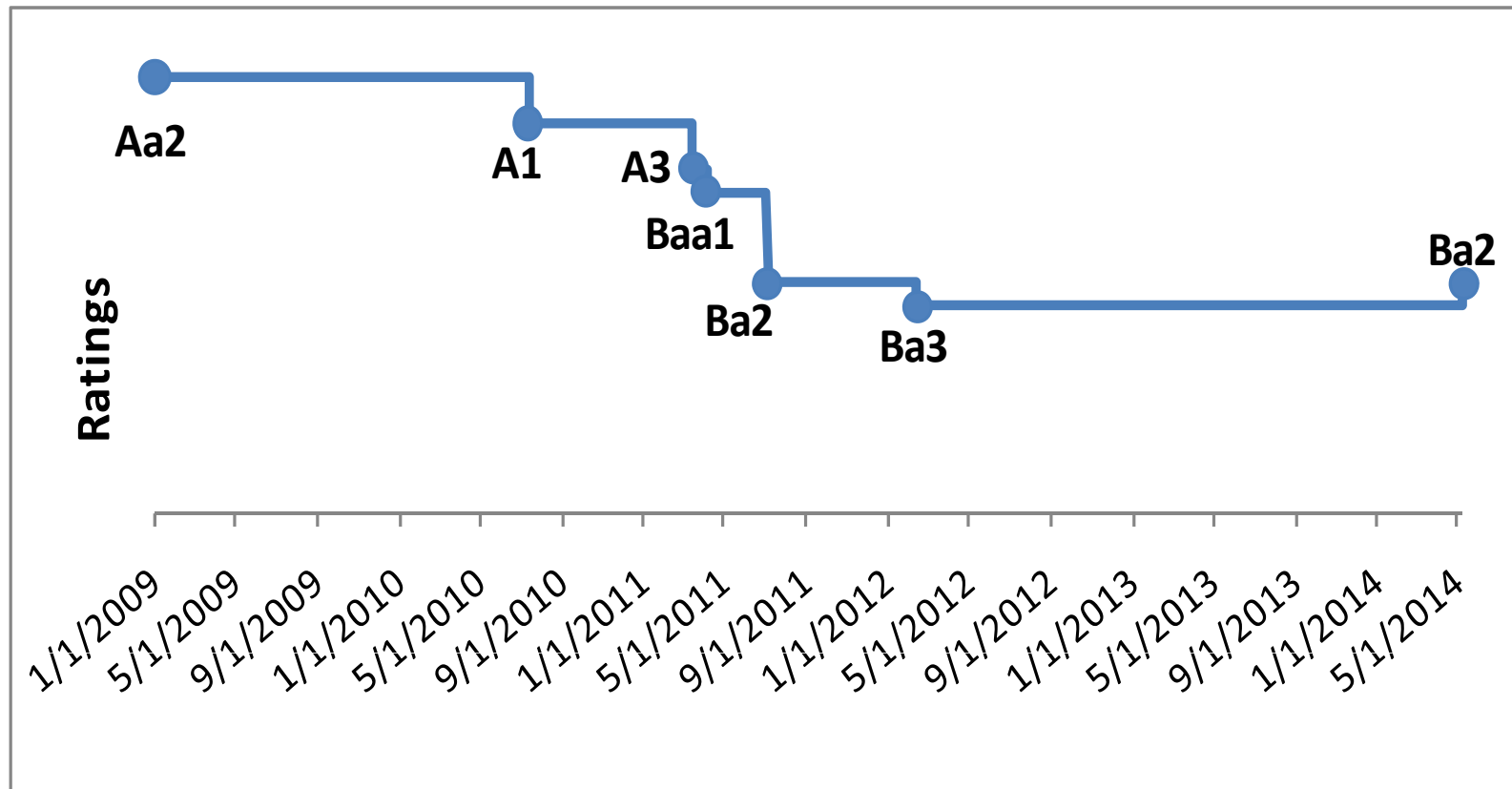
Greece



Sovereign Ratings Actions (Moody's)

2009 - Present

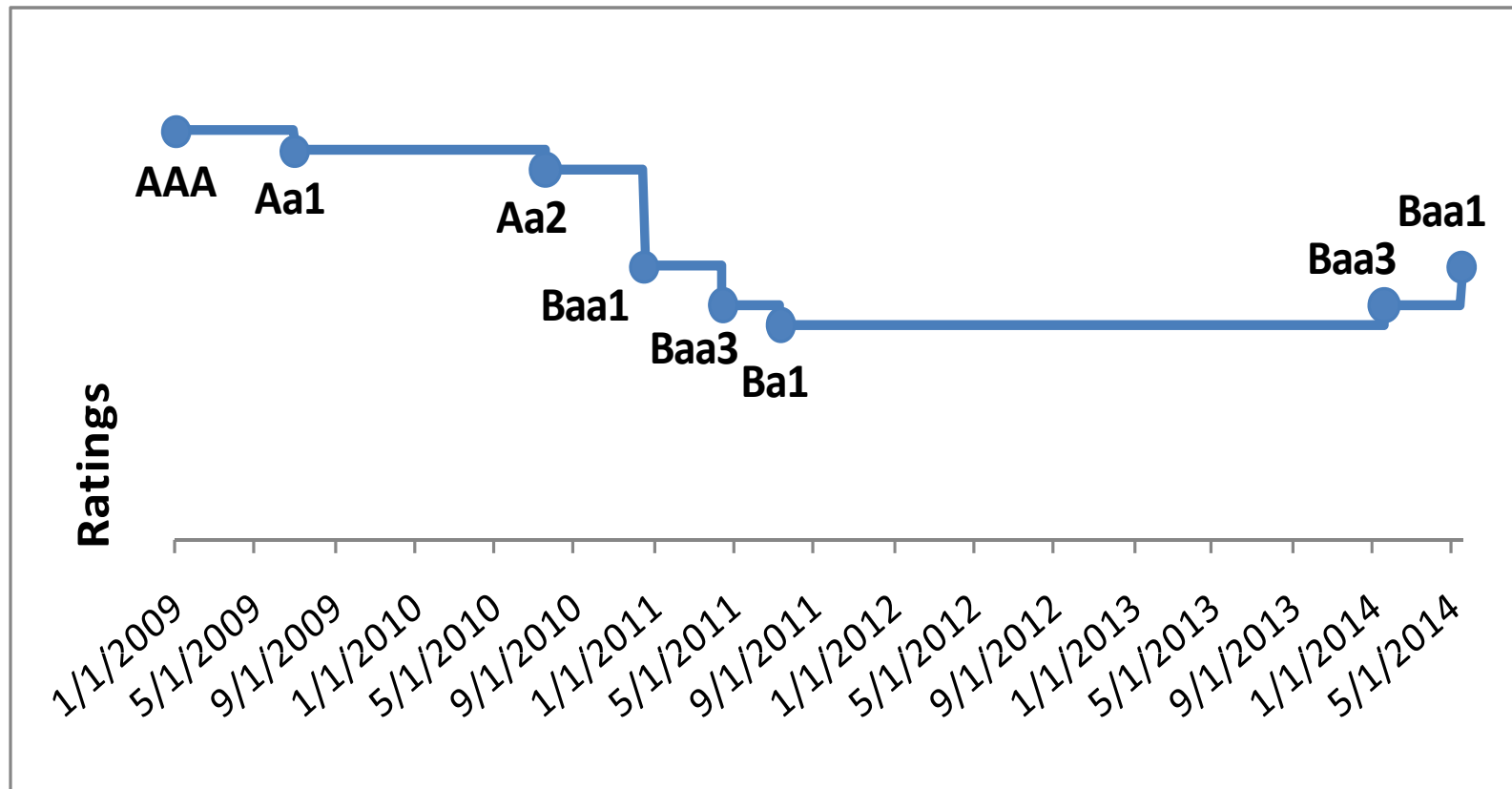
Portugal



Sovereign Ratings Actions (Moody's)

2009 - Present

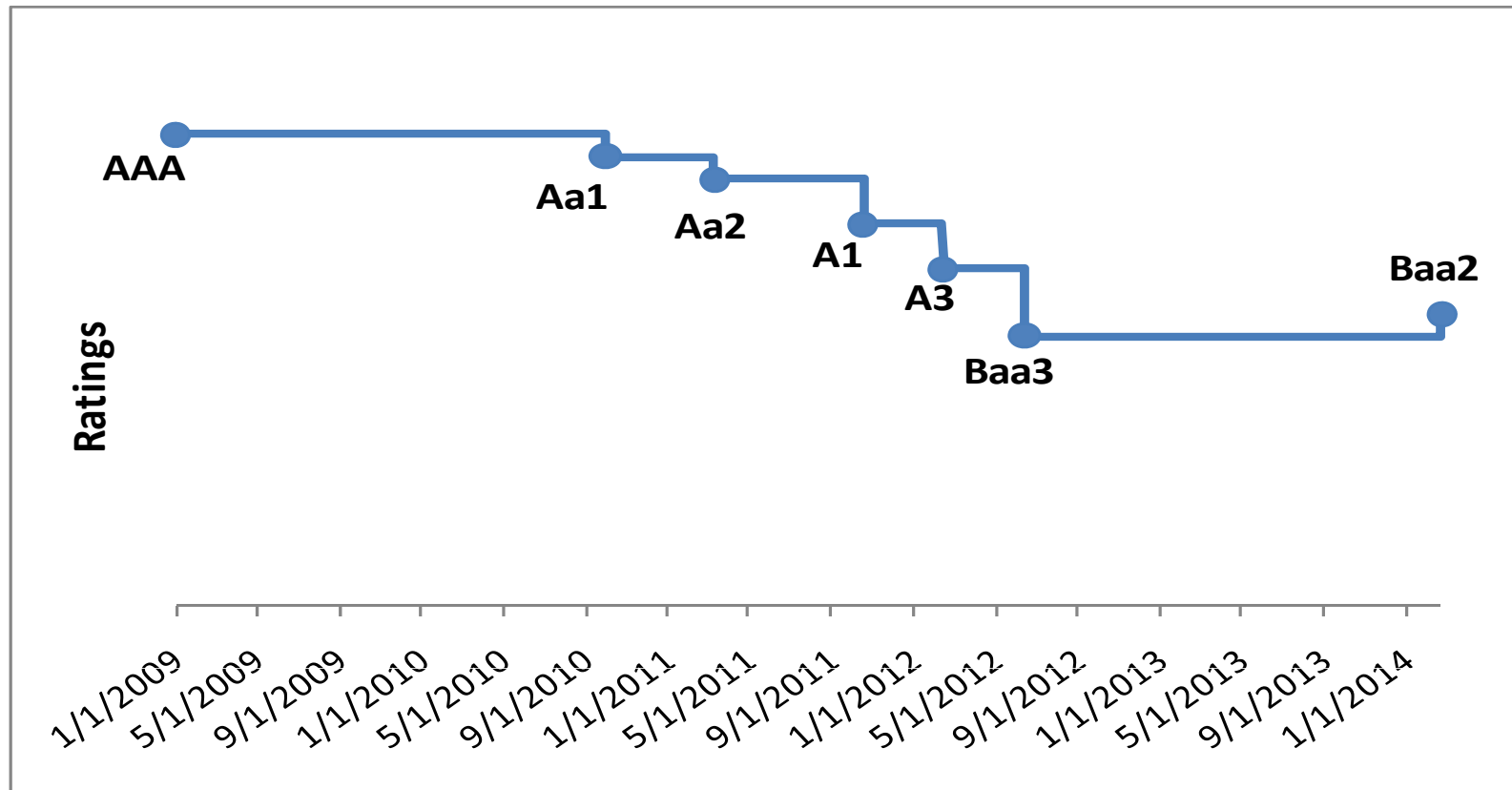
Ireland



Sovereign Ratings Actions (Moody's)

2009 - Present

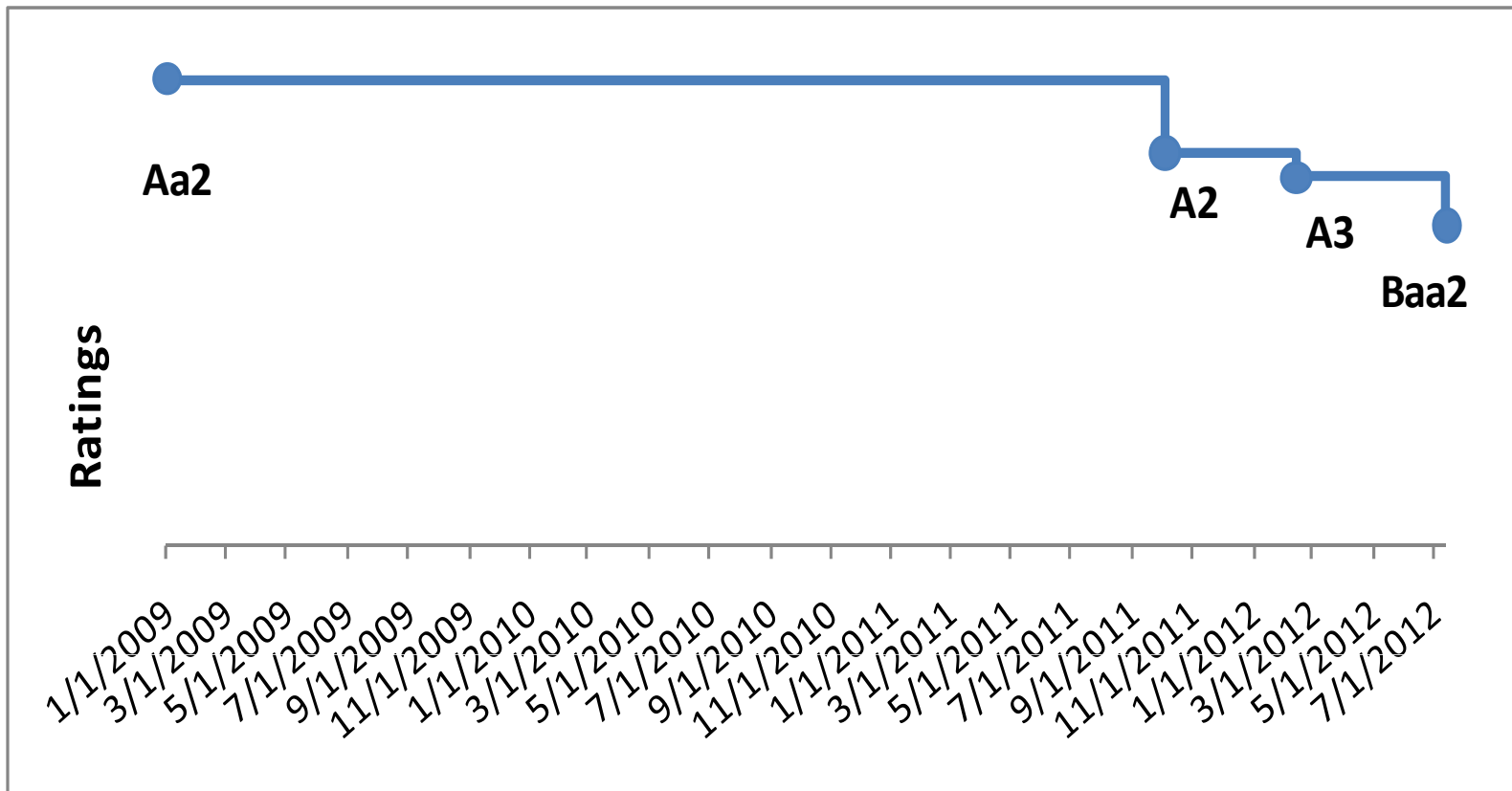
Spain



Sovereign Ratings Actions (Moody's)

2009 - Present

Italy



Financial Health of the Corporate, Non-Financial Sector: Selected European Countries and Australia/U.S.A. in 2008-2013 (6/30)

(Z-Metrics PD Estimates - *Median*)

Z-Metrics PD Estimates* : Five-Year Public Model							
Country	Listed Companies** (2013)	Median PD					
		6/30/13	2012	2011	2010	2009	2008
Netherlands	78	3.5%	2.0%	3.1%	2.5%	2.7%	5.0%
Sweden	172	3.0%	2.5%	2.7%	2.6%	3.1%	6.7%
France	353	4.4%	3.7%	6.6%	4.0%	4.6%	7.2%
U.K.	515	2.1%	2.1%	4.6%	3.7%	4.5%	7.3%
Germany	370	4.9%	3.2%	4.6%	3.9%	4.5%	7.6%
Ireland	24	1.8%	2.4%	3.0%	1.8%	3.0%	7.9%
Spain	92	6.9%	6.7%	10.6%	7.1%	5.9%	8.6%
Poland	392	8.1%	7.9%	9.8%	5.1%	6.6%	10.3%
Italy	168	11.0%	8.7%	11.9%	7.7%	7.7%	11.3%
Portugal	34	15.8%	8.3%	15.1%	9.9%	8.2%	16.6%
Greece	97	33.9%	21.4%	26.7%	18.7%	11.9%	16.7%
U.S.A.	2,450	1.4%	1.5%	4.8%	3.8%	3.3%	4.5%
Australia	359	3.1%	2.8%	3.2%	2.4%	3.3%	6.3%

*Since the Z-Metrics Model is not practically available for most analysts, we could substitute the Z"-Score method (available from <altmanZscoreplus.com>). **Sales > €50mm
Sources: RiskMetrics Group (MSCI), Markit, Compustat Global.

Financial Health of the Corporate, Non-Financial Sector: Selected European Countries and Australia/U.S.A.in 2008-2013

(Z-Metrics PD Estimates – 75th Percentile)

Z-Metrics PD Estimates* : Five-Year Public Model							
Country	Listed Companies (2013)**	75th Percentile PD					
		2013	2012	2011	2010	2009	2008
Sweden	265	4.1%	5.6%	8.3%	6.8%	8.0%	13.5%
Netherlands	108	6.8%	5.8%	9.1%	5.7%	6.7%	15.7%
U.K.	562	4.9%	6.3%	10.4%	5.7%	9.3%	16.6%
Spain	97	20.8%	21.2%	22.6%	13.2%	12.7%	18.4%
France	337	9.2%	10.2%	13.0%	8.5%	10.3%	19.2%
Germany	434	10.4%	8.0%	10.6%	9.7%	11.9%	22.2%
Portugal	38	27.5%	26.3%	42.4%	22.2%	22.1%	26.6%
Italy	184	18.4%	23.3%	26.4%	14.1%	18.1%	27.1%
Ireland	32	3.1%	3.0%	8.1%	8.6%	11.0%	27.5%
Poland	392	17.5%	25.5%	28.5%	15.2%	17.1%	32.6%
Greece	106	60.0%	60.8%	59.2%	46.9%	31.4%	34.6%
Australia	381	7.7%	8.7%	10.3%	7.4%	7.8%	16.3%
U.S.A.	2,450	3.7%	4.6%	11.7%	8.0%	11.5%	19.5%

*Since the Z-Metrics Model is not practically available for most analysts, we could substitute the Z"-Score method (available from <altmanZscoreplus.com>). **Sales > €50mm
Sources: RiskMetrics Group (MSCI), Markit, Compustat Global.

Financial Health of the Non-Financial and Financial Sectors: Selected European Countries in 2008-2013

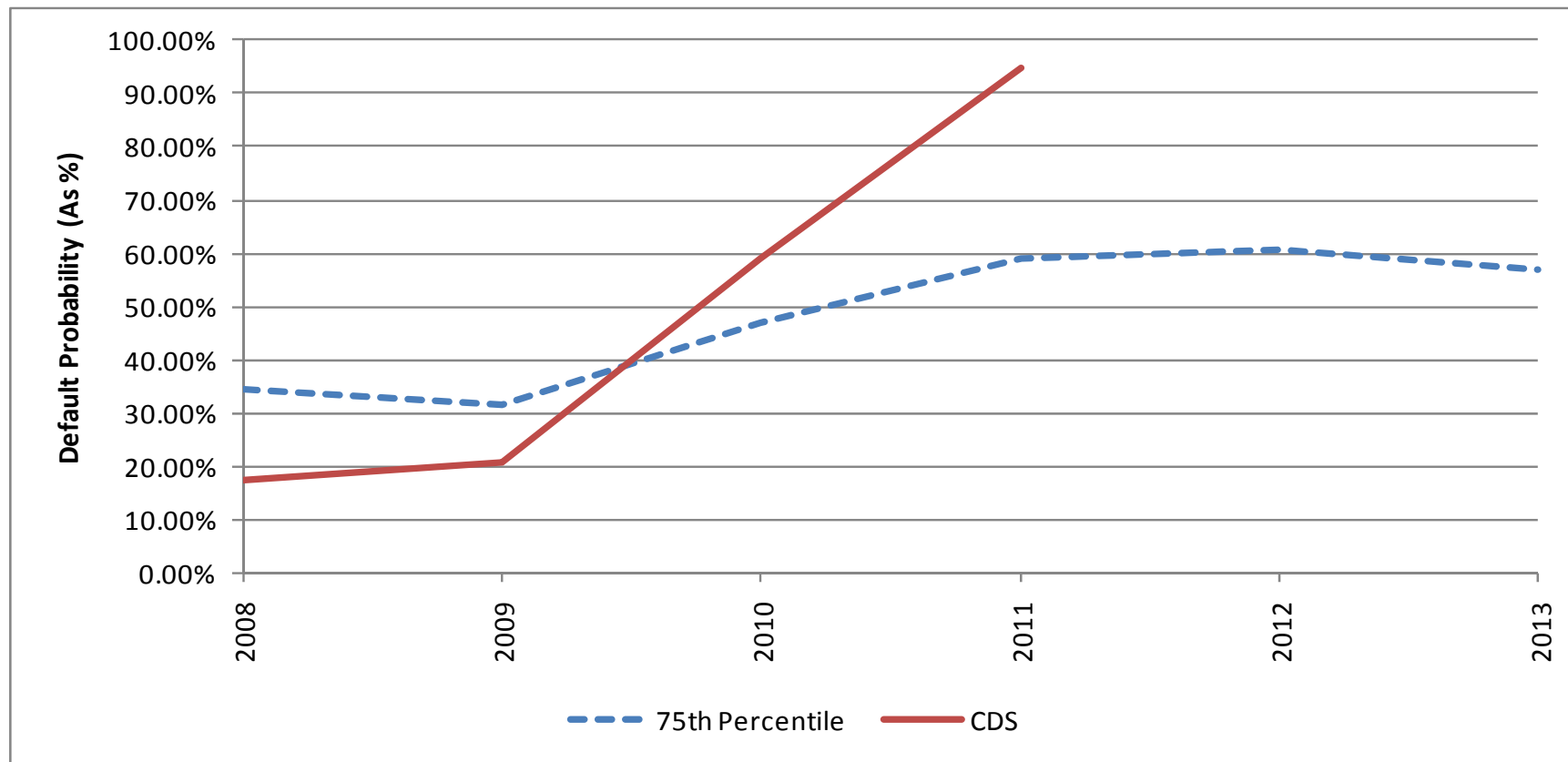
Combined Non-Financial and Financial Sector 5-Year PDs: Europe, 2008-2013 75th Percentile															
Country	2013			2012			2011			2009			2008		
	Non-Financial PD	Financial PD	Combined (equal weighting)*	Non-Financial PD	Financial PD	Combined (equal weighting)*	Non-Financial PD	Financial PD	Combined (equal weighting)*	Non-Financial PD	Financial PD	Combined (equal weighting)*	Non-Financial PD	Financial PD	Combined (equal weighting)*
Sweden	4.10%	3.42%	3.76%	5.60%	3.42%	4.51%	8.30%	3.88%	6.09%	8.00%	3.27%	5.64%	13.50%	5.84%	9.67%
United Kingdom	4.90%	5.33%	5.11%	6.30%	5.33%	5.81%	10.40%	6.00%	8.20%	9.30%	7.66%	8.48%	16.60%	18.54%	17.57%
Germany	10.40%	1.81%	6.11%	8.00%	1.81%	4.91%	10.60%	2.24%	6.42%	11.90%	3.14%	7.52%	22.20%	6.09%	14.14%
Netherlands	6.80%	6.58%	6.69%	5.80%	6.58%	6.19%	9.10%	5.82%	7.46%	6.70%	7.06%	6.88%	15.70%	13.02%	14.36%
France	9.20%	4.65%	6.92%	10.20%	4.65%	7.42%	13.00%	5.33%	9.16%	10.30%	7.68%	8.99%	19.20%	12.22%	15.71%
Ireland	3.10%	22.50%	12.80%	3.00%	22.50%	12.75%	8.10%	21.07%	14.59%	11.00%	22.86%	16.93%	27.50%	44.70%	36.10%
Italy	18.40%	10.47%	14.44%	23.30%	10.47%	16.89%	26.40%	9.50%	17.95%	18.10%	6.94%	12.52%	27.10%	14.48%	20.79%
Spain	20.80%	13.27%	17.03%	21.20%	13.27%	17.23%	22.60%	15.16%	18.88%	12.70%	14.28%	13.49%	18.40%	21.07%	19.74%
Portugal	27.50%	21.34%	24.42%	26.30%	21.34%	23.82%	42.40%	16.66%	29.53%	22.10%	17.44%	19.77%	26.60%	47.88%	37.24%
Greece	60.00%	48.43%	54.22%	60.80%	48.43%	54.62%	59.20%	46.31%	52.76%	31.40%	49.40%	40.40%	34.60%	73.65%	54.12%

* Equal (50/50) weighting of Non-Financial/Financial PDs.

Notes: The non-financial PDs are computed by applying the coefficients from the Z-Metrics Model. The financial sector PDs are computed from the combined US and European Bank Distress Prediction Model (Altman, Cizel, Rijken, 2014). The computations are based on the data from Compustat, CRSP, Bankscope, and OECD.

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Greece, 2008 – 2013

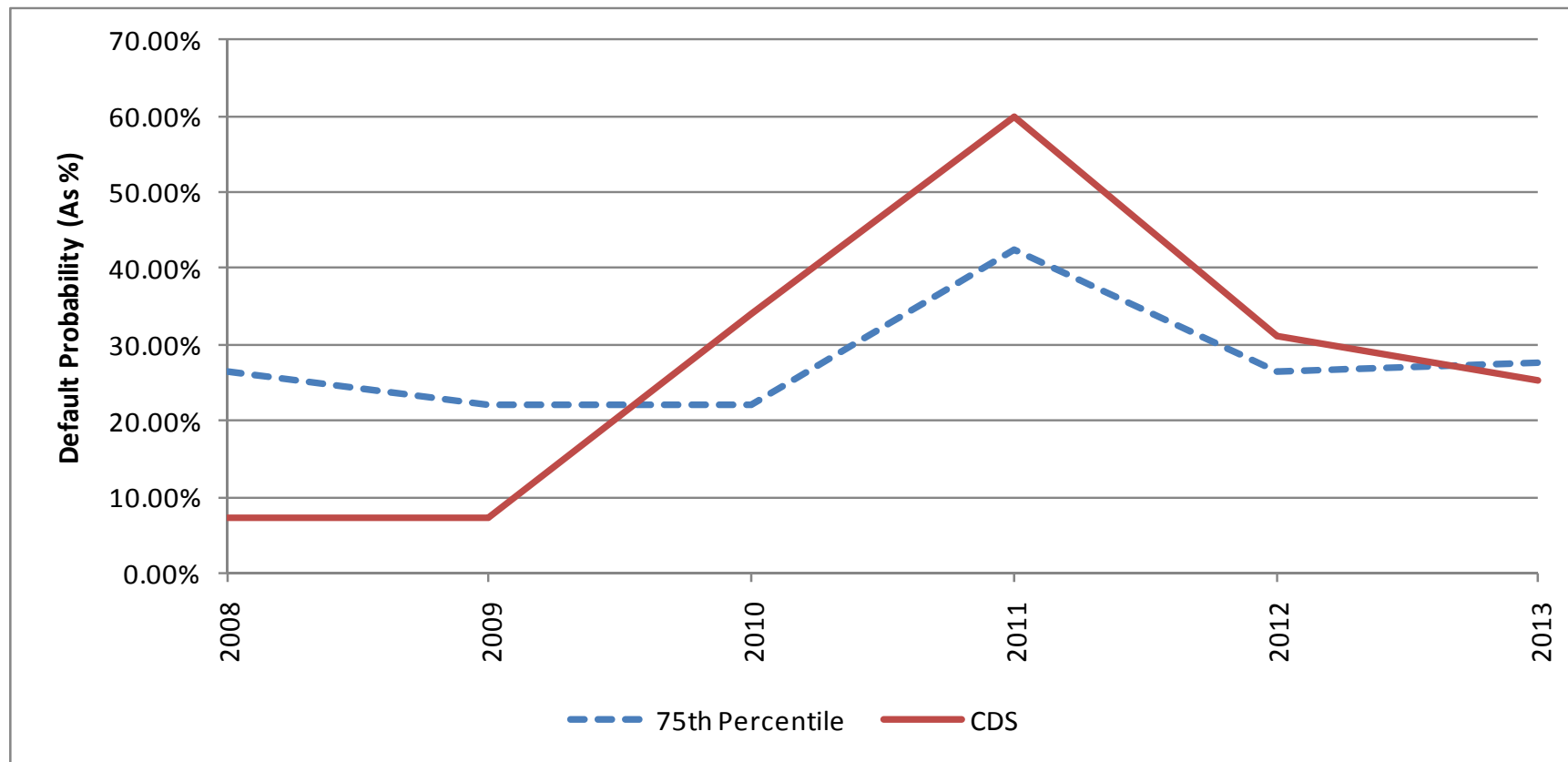


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Portugal, 2008 – 2013

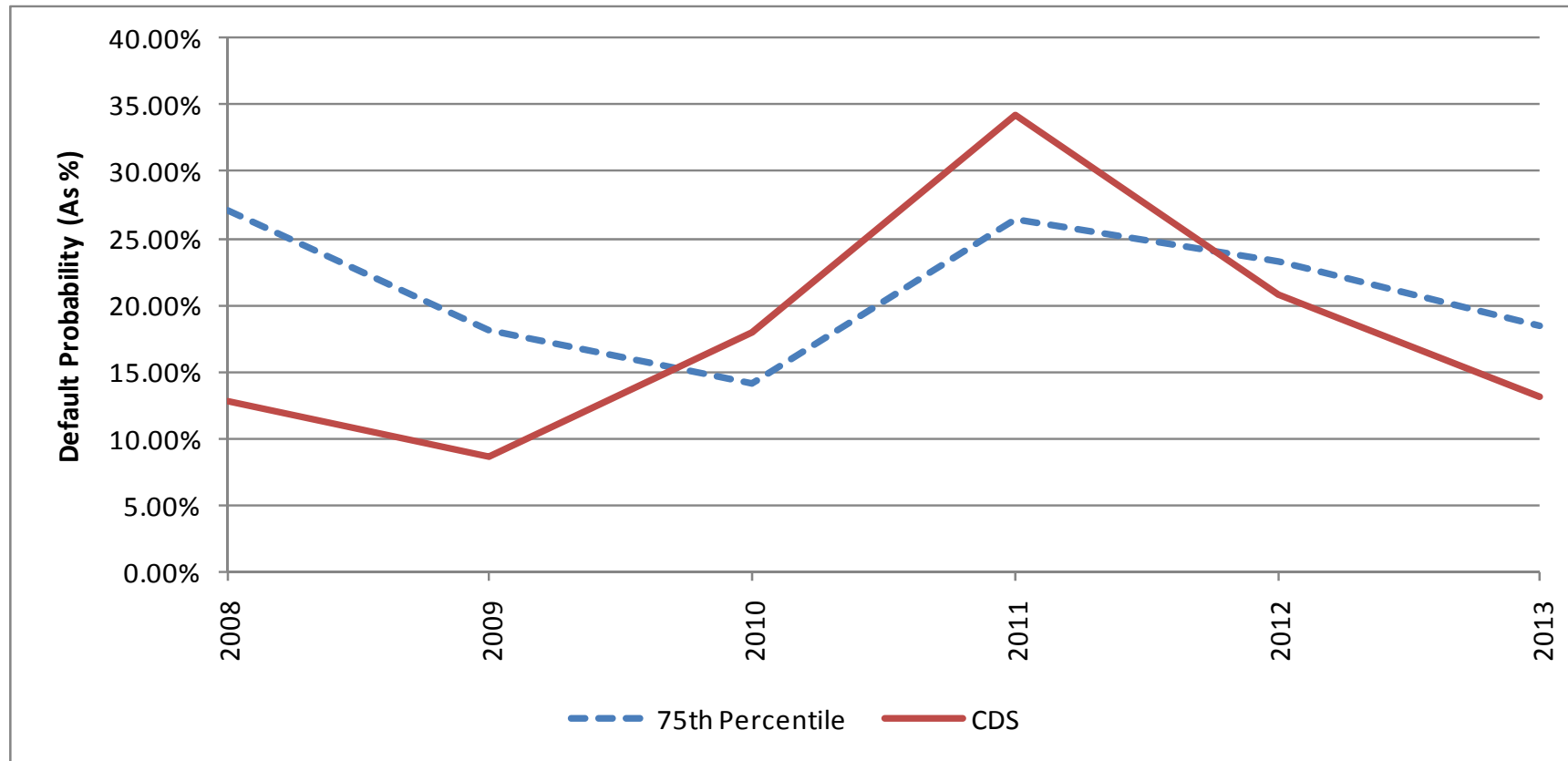


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Italy, 2008 – 2013

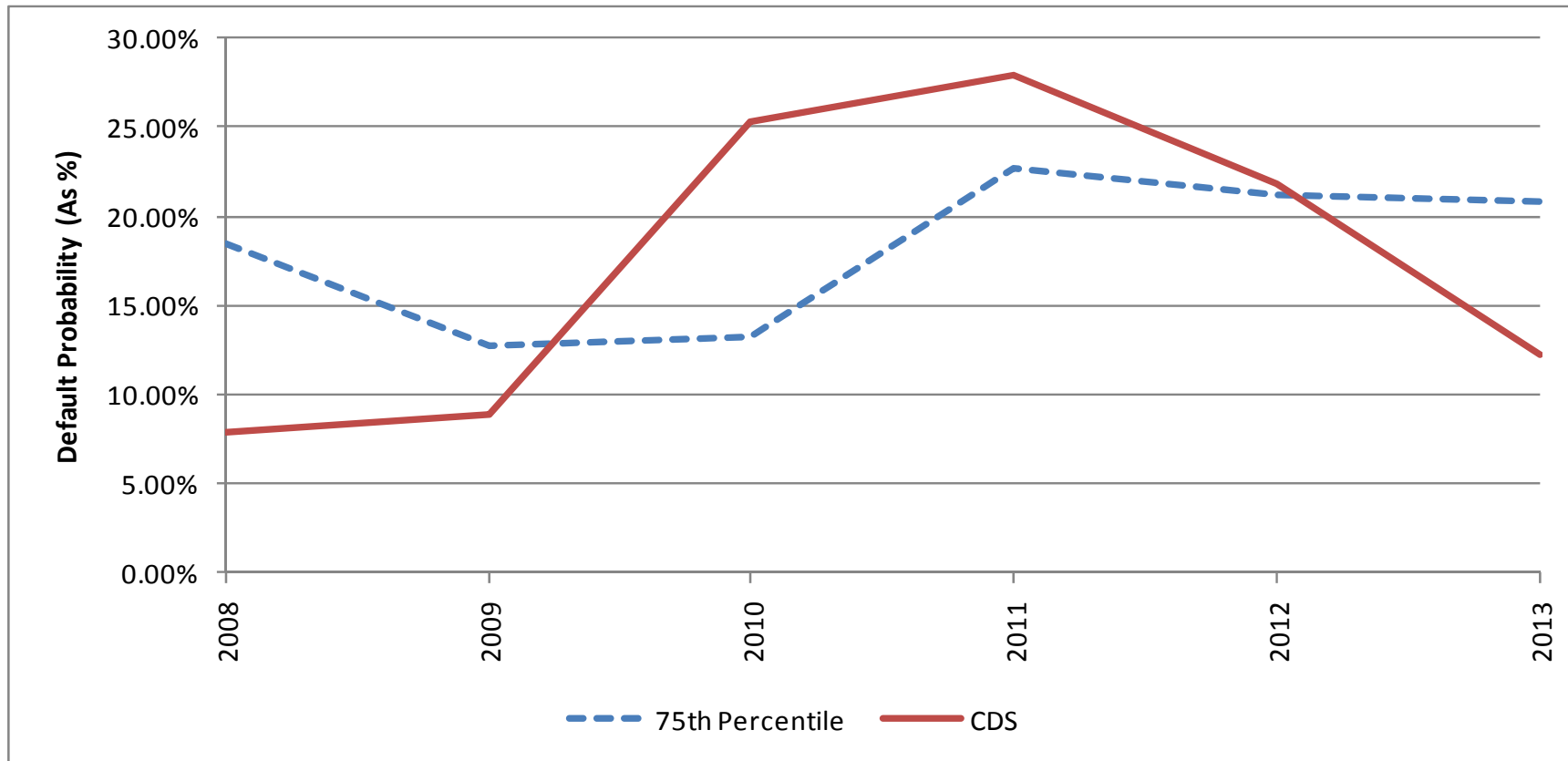


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Spain, 2008 – 2013

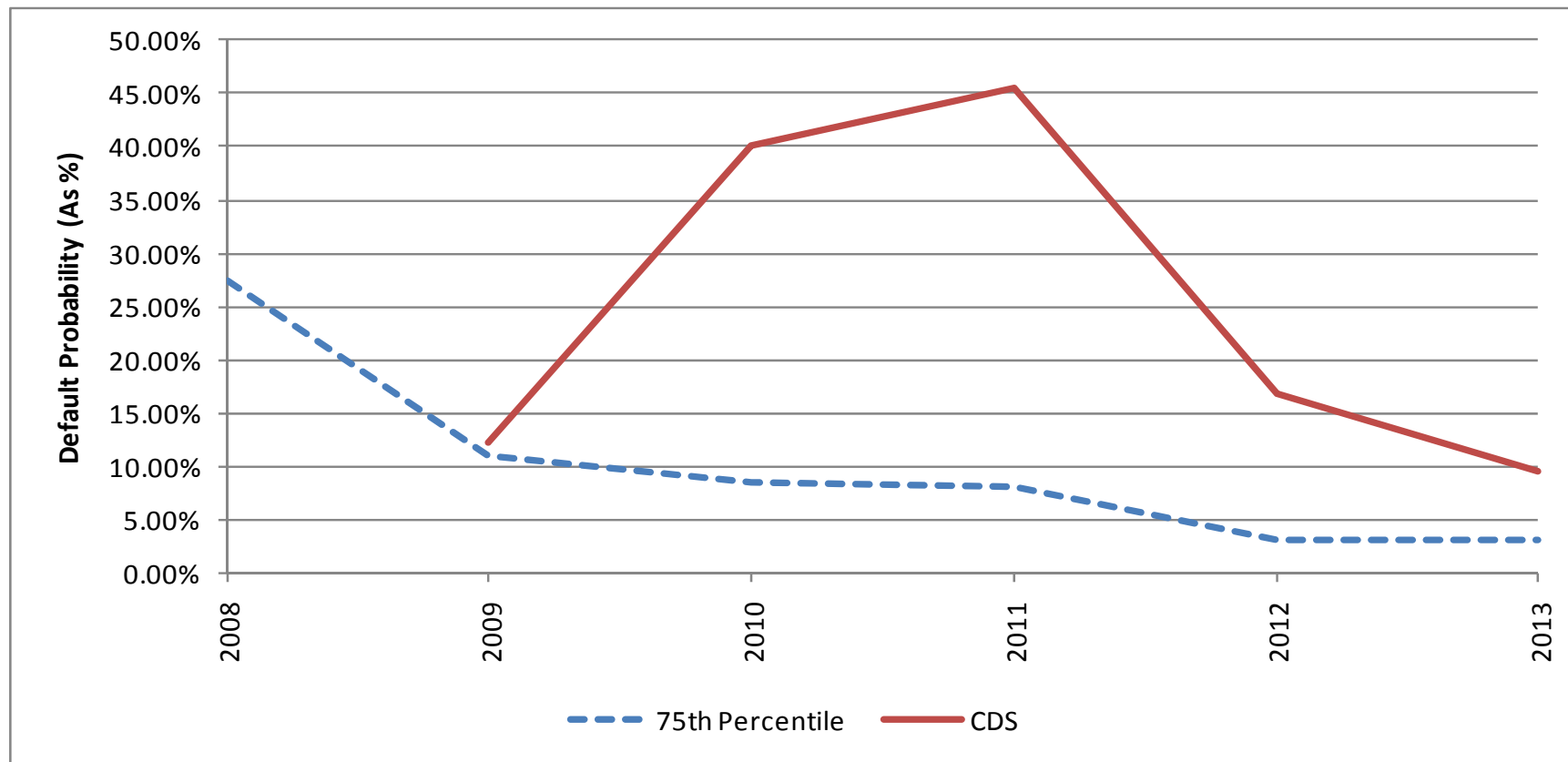


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Ireland, 2008 – 2013

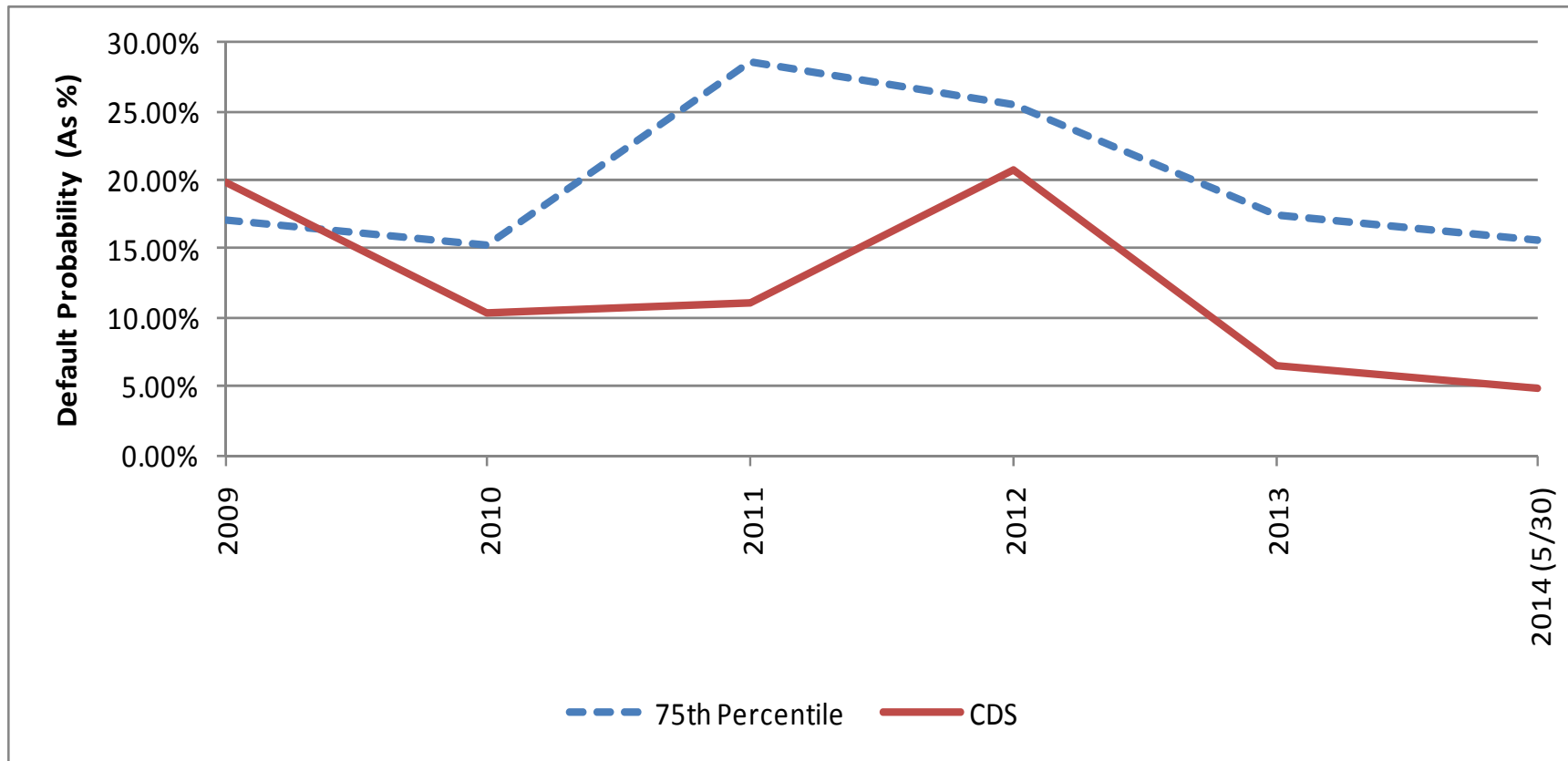


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Poland, 2009 – 2014 (5/30)

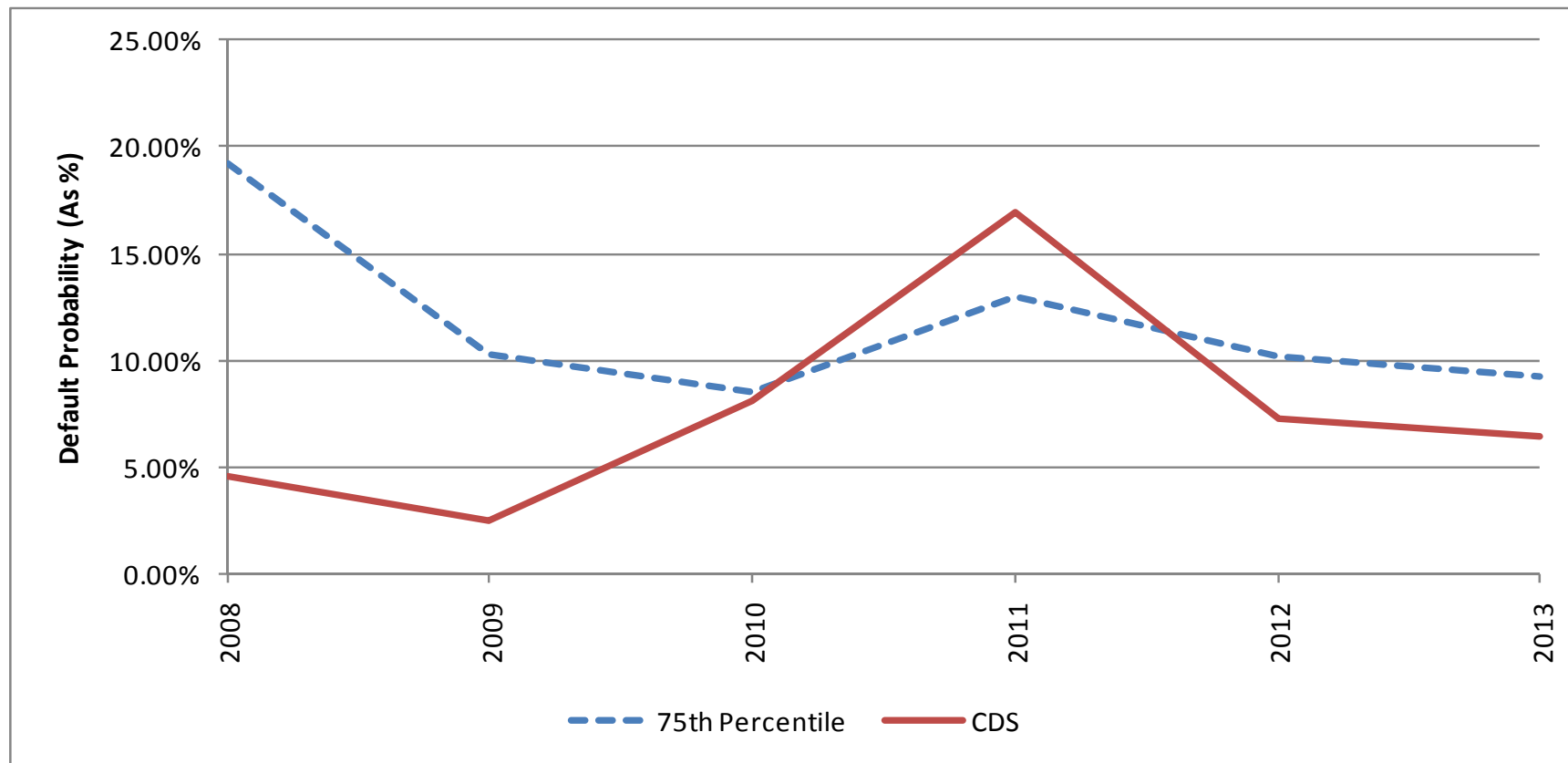


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

France, 2008 – 2013

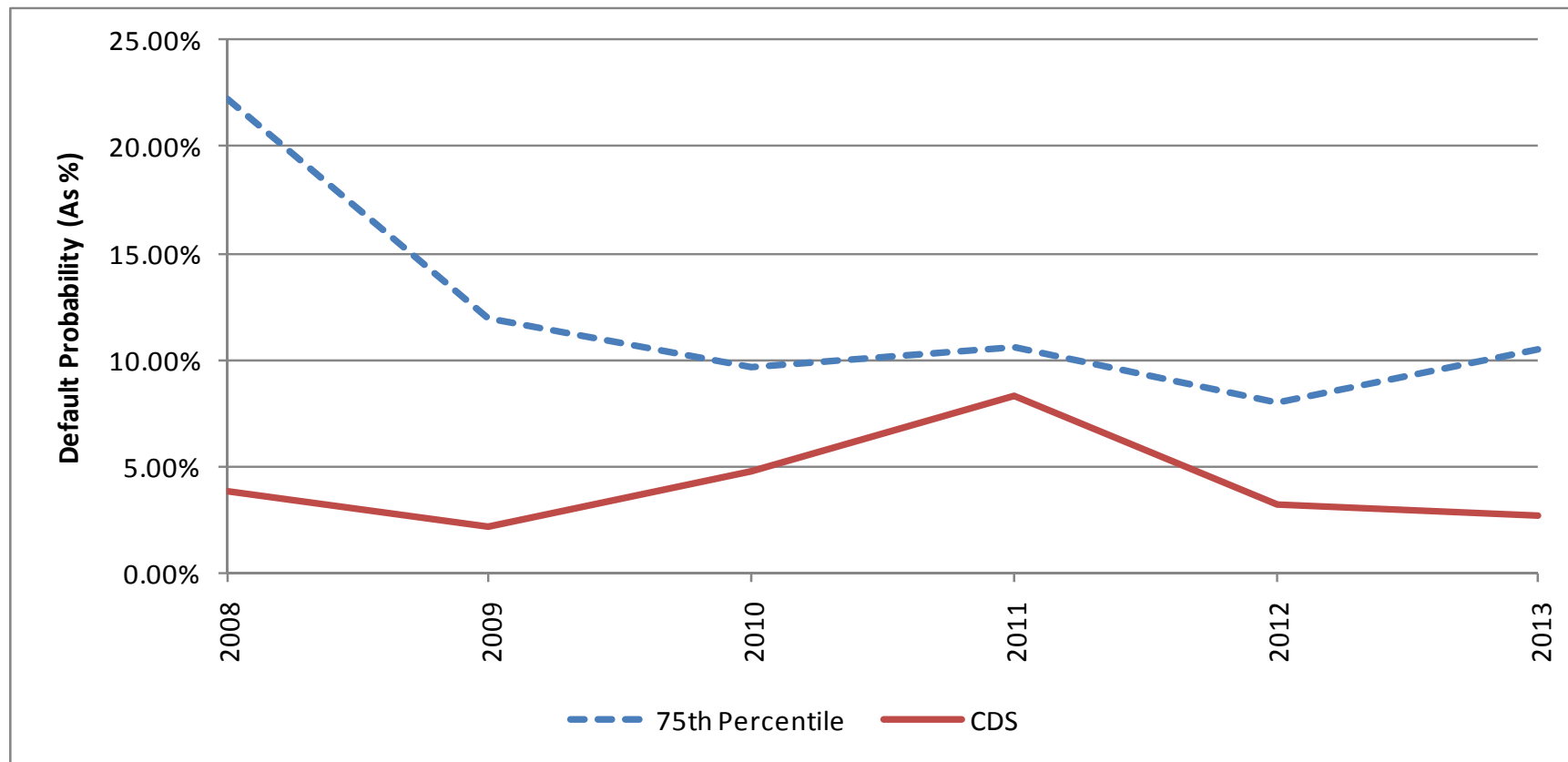


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Germany, 2008 – 2013



*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Greek CDS Default (March 2012)

- › Greece invokes collective action clause triggering default designation from I.S.D.A.
- › Net exposure for CDS insurers = €3.5 Billion
- › Auction determined recovery rate = 21.5%
- › Net loss = 78.5% - premium earned

ASIA ANALYSIS

China Corporate Sector Credit Analysis: Five-Year (2008-2012) Medians of Selected Financial Measures (Bond Rating Equivalents (BREs) Based on U.S. Industrial Ratios)

	No. of entities	Debt/EBITDA (x)		Debt/debt + equity (%)		EBITDA margin (%)		FFO/debt (%)		Return on capital (%)		Summary Risk Ratings*
		Median ratio	BRE	Median Ratio	BRE	Median Ratio	BRE	Median Ratio	BRE	Median Ratio	BRE	
Automobile OEM & parts suppliers	9	0.7	AA+	20.0	AA+	6.8	CCC-	89.6	AA	18.8	A-	A-
Building materials	8	4.2	BB-	50.8	BB	21.1	A	18.9	BB-	11.9	BB+	BB+
Capital goods	14	2.8	BB+	40.0	BBB+	8.7	CCC-	32.1	BBB-	13.1	BBB	BB+
Coal	6	2.8	BB+	44.6	BBB	15.6	B-	26.3	BB	13.9	BBB	BB+
Construction and engineering	7	4.8	B+	55.0	BB	5.6	CCC-	14.4	B+	10.6	BB	B+
Consumer products	15	0.7	AA+	16.7	AAA	12.0	CCC	110.1	AA	21.1	A	A
Diversified	12	6.2	B-	52.8	BB	8.4	CCC-	11.9	B	7.6	B	B
Healthcare & pharmaceuticals	5	1.7	A-	19.2	AA+	5.6	CCC-	53.3	A	13.3	BBB	BBB
High technology	9	1.5	A	24.5	AA+	4.9	CCC-	54.1	A	14.5	BBB+	BBB+
Infrastructure	16	4.1	BB-	40.5	BBB+	42.3	AAA	16.7	B+	7.8	B	BBB-
Metals & mining	7	7.2	CCC+	55.5	BB	6.6	CCC-	10.6	B	4.9	CCC+	B-
Oil & gas	5	1.6	A	26.4	AA	23.8	A+	55.2	A+	13.7	BBB	A
Real estate	7	3.8	BB-	49.0	BB+	27.1	AA	10.5	B	14.1	BBB	BBB-
Retail	12	3.8	BB-	54.5	BB	8.2	CCC-	21.7	BB-	12.8	BBB-	BB-
Telecommunications	3	1.7	A-	23.6	AA+	35.3	AAA	88.5	AA	6.2	B-	A
Transportation services	6	3.1	BB	33.3	A	17.6	BB	28.3	BB+	7.3	B	BB+
Utilities	10	7.9	CCC+	76.7	B	20.2	A-	6.9	CCC+	5.0	CCC+	B
Total or average	151	3.4	BB	40.2	BBB+	15.9	B-	38.2	BBB+	11.6	BB+	BB+

*Summary Risk Rating based on Equally Weighted Average of the five financial measures.

Source: Standard & Poor's, Ratings Direct, August 18, 2013 and S&P Key Financial Ratios (2009-2011). BREs based on E. Altman and NYU Salomon Center interpolations.

China Corporate Sector Credit Analysis: Five-Year (2008-2012) Medians of Selected Financial Measures (Bond Rating Equivalents (BREs) Based on EMEA Industrial Ratios)

	No. of entities	Debt/EBITDA (x)		Debt/debt + equity (%)		EBITDA margin (%)		FFO/debt (%)		Return on capital (%)		Summary Risk Ratings*
		Median ratio	BRE	Median Ratio	BRE	Median Ratio	BRE	Median Ratio	BRE	Median Ratio	BRE	
Automobile OEM & parts suppliers	9	0.7	AA+	20.0	AA+	6.8	CCC-	89.6	AA	18.8	AA-	A
Building materials	8	4.2	BB-	50.8	BB	21.1	AA-	18.9	BB-	11.9	BBB+	BBB-
Capital goods	14	2.8	BBB-	40.0	BBB+	8.7	CCC-	32.1	BBB	13.1	BBB+	BB+
Coal	6	2.8	BBB-	44.6	BBB	15.6	B-	26.3	BB+	13.9	A-	BB+
Construction and engineering	7	4.8	B+	55.0	BB	5.6	CCC-	14.4	B+	10.6	BBB-	B+
Consumer products	15	0.7	AA+	16.7	AAA	12.0	CCC	110.1	AA	21.1	AA	A+
Diversified	12	6.2	B	52.8	BB	8.4	CCC-	11.9	B	7.6	B+	B
Healthcare & pharmaceuticals	5	1.7	A	19.2	AA+	5.6	CCC-	53.3	A+	13.3	A-	BBB+
High technology	9	1.5	A	24.5	AA	4.9	CCC-	54.1	A+	14.5	A-	BBB+
Infrastructure	16	4.1	BB-	40.5	BBB+	42.3	AAA	16.7	BB-	7.8	B+	BBB-
Metals & mining	7	7.2	B-	55.5	BB	6.6	CCC-	10.6	B	4.9	B-	B-
Oil & gas	5	1.6	A	26.4	AA	23.8	AA	55.2	A+	13.7	A-	A+
Real estate	7	3.8	BB-	49.0	BB+	27.1	AA+	10.5	B	14.1	A-	BBB-
Retail	12	3.8	BB-	54.5	BB	8.2	CCC-	21.7	BB	12.8	BBB+	BB-
Telecommunications	3	1.7	A	23.6	AA	35.3	AAA	88.5	AA	6.2	B	A
Transportation services	6	3.1	BB+	33.3	A	17.6	A	28.3	BBB-	7.3	B+	BBB
Utilities	10	7.9	CCC+	76.7	B	20.2	A+	6.9	B-	5.0	B-	B+
Total or average	151	3.4	BB	40.2	BBB+	15.9	BBB+	38.2	BBB+	11.6	BBB	BBB

*Summary Risk Rating based on Equally Weighted Average of the five financial measures.

Source: Standard & Poor's, Ratings Direct, August 18, 2013 and S&P Key Financial Ratios (2009-2011). BREs based on E. Altman and NYU Salomon Center interpolations.

China Corporate Industry Sectors: Hierarchy of Summary Risk Ratings (2008-2012)

(Based on U.S. & EMEA Industrial BREs)

	Summary Risk Ratings: U.S. Equivalents	Summary Risk Ratings: EMEA Equivalents
Consumer products	A	A+
Oil & gas	A	A+
Telecommunications	A	A
Automobile OEM & parts suppliers	A-	A
High technology	BBB+	BBB+
Healthcare & pharmaceuticals	BBB	BBB+
Infrastructure	BBB-	BBB-
Real estate	BBB-	BBB-
Building materials	BB+	BBB-
Capital goods	BB+	BB+
Coal	BB+	BB+
Transportation services	BB+	BBB
Retail	BB-	BB-
Construction and engineering	B+	B+
Diversified	B	B
Utilities	B	B+
Metals & mining	B-	B-
Overall average	BB+	BBB

Financial Health of the Corporate, Non-Financial Sector: Selected Asian, LatAm & BRIC Countries

(Z-Metrics PD Estimates – 75th Percentile)

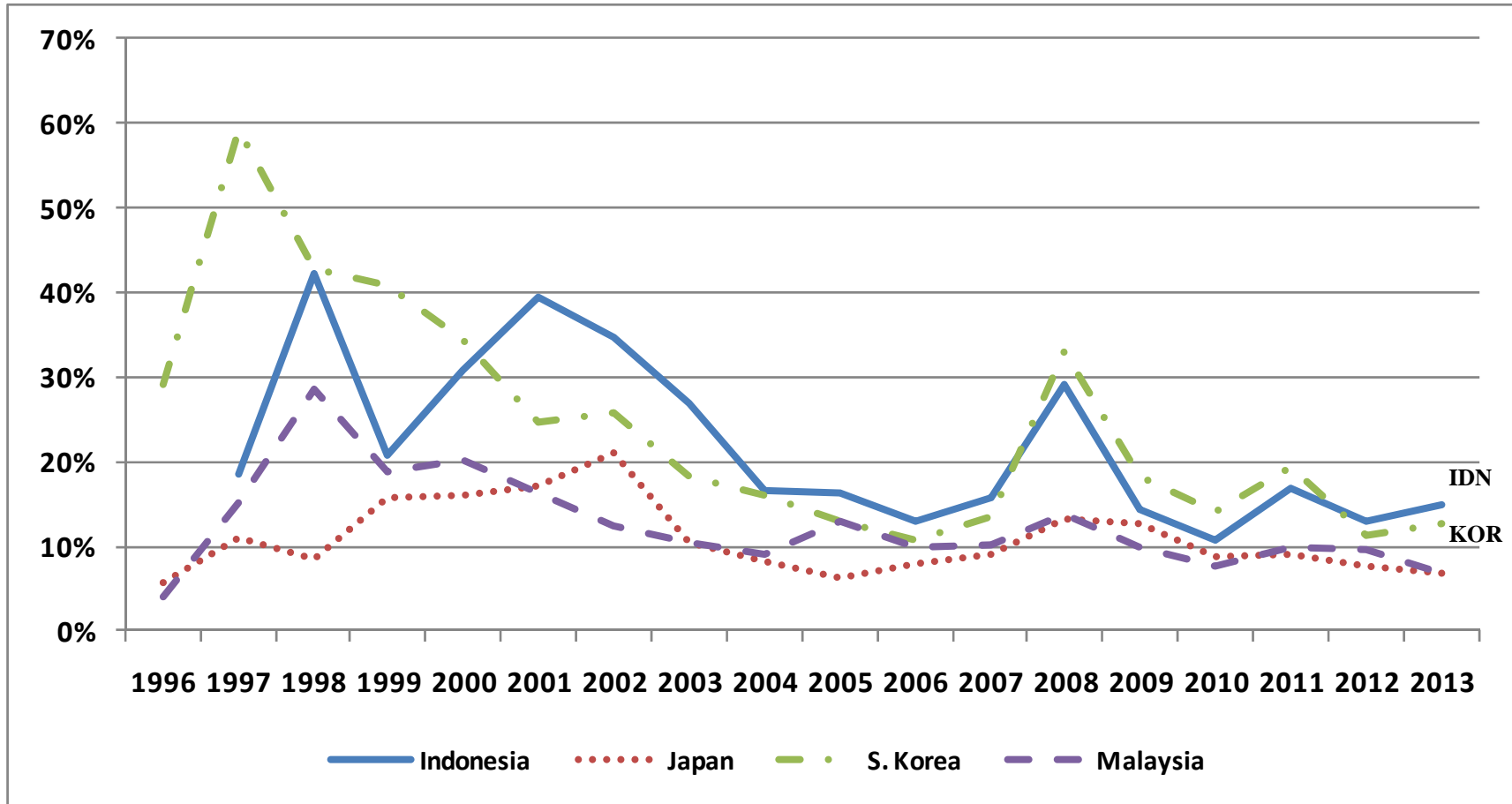
Z-Metrics PD Estimates* : Five-Year Public Model						
Country	Listed Companies (2013)**	75th Percentile PD				
		2013	Rank	2012	Late 1990' s	Rank
Chile	127	5.9%	1	8.1%	n/a	-
Japan	2,724	6.7%	2	7.6%	5.8%	2
Malaysia	407	6.8%	3	9.6%	4.0%	1
Mexico	87	7.4%	4	6.6%	n/a	-
Singapore	347	8.3%	5	10.7%	7.7%	4
Hong Kong	245	9.9%	6	11.6%	8.5%	5
China	1,974	12.2%	7	12.0%	10.6%	6
South Korea	872	12.7%	8	11.2%	29.0%	10
Indonesia	226	14.8%	9	12.8%	18.5%	7
Russia	187	15.4%	10	9.6%	26.6%	9
Brazil	219	16.1%	11	17.3%	7.6%	3
India	1,076	17.0%	12	16.6%	20.3%	8

*Since the Z-Metrics Model is not practically available for most analysts, we could substitute the Z"-Score method (available from <altmanZscoreplus.com>). **Sales > € 50mm

Sources: RiskMetrics Group (MSCI), Markit, Compustat Global.

Measures of Sovereign Financial Health: Selected Asian Countries 75th Percentile 5-Year PD*

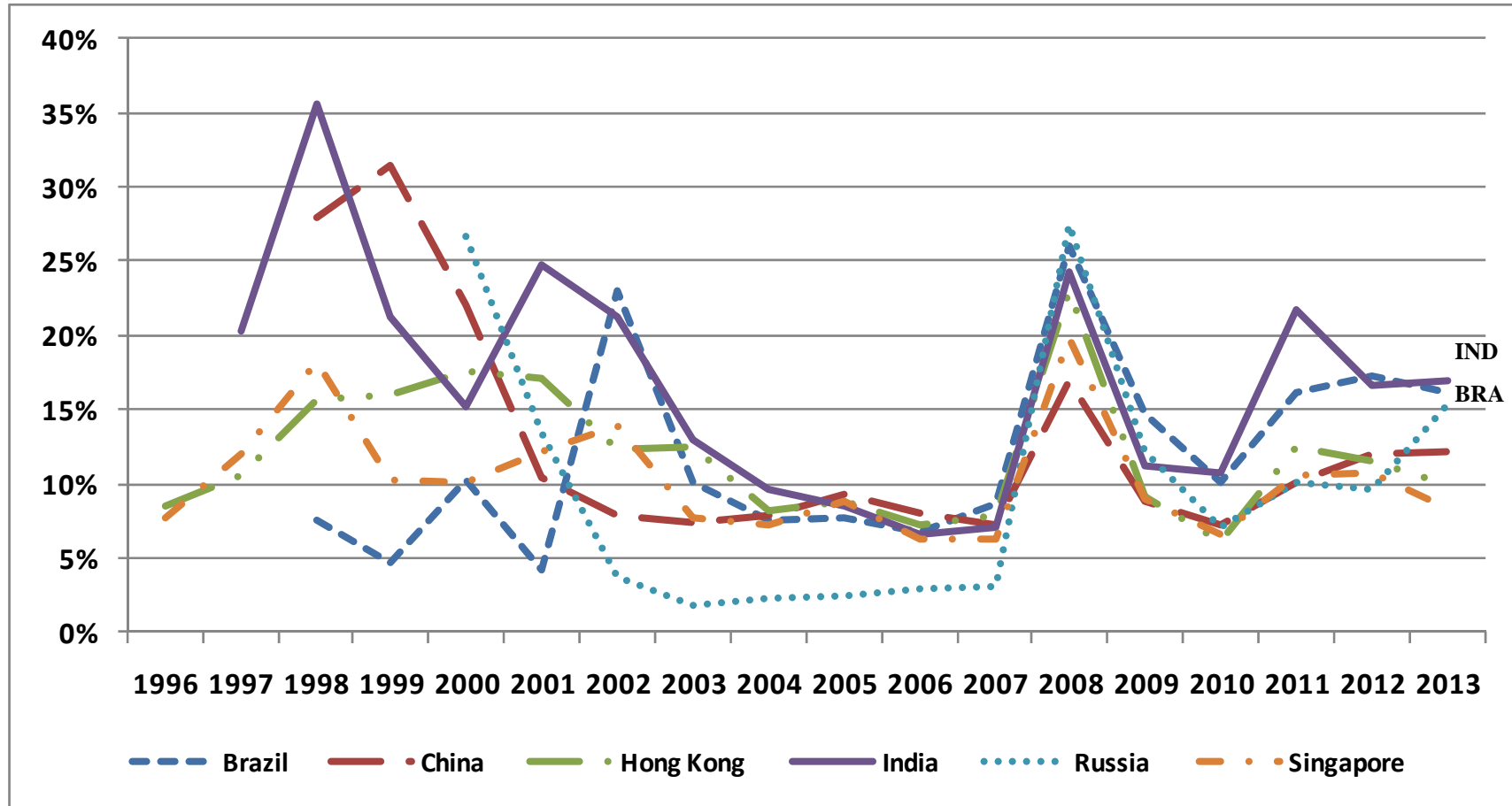
Financial Crisis of the late 1990's to 2013



Source: Compustat (S&P), *Based on Z-Metrics Model Calculation

Measures of Sovereign Financial Health: BIRCHS Countries 75th Percentile 5-Year PD*

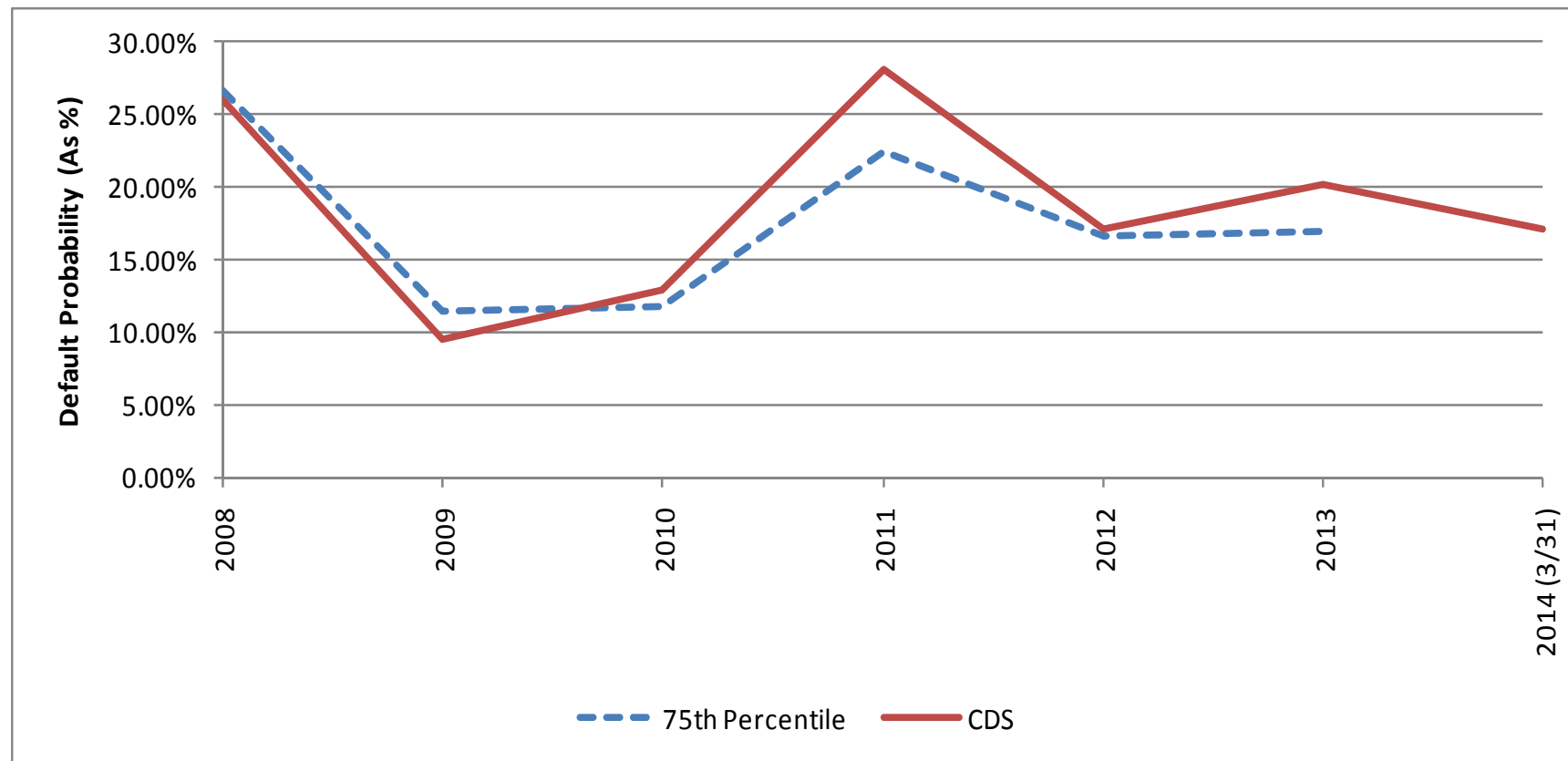
Financial Crisis of the late 1990's to 2013



Source: Compustat (S&P), *Based on Z-Metrics Model Calculation

Five Year Implied Probabilities of Default (PD) From CDS* Spreads vs 75th Percentile Corporate PD

India, 2008 – 2014 (3/31)

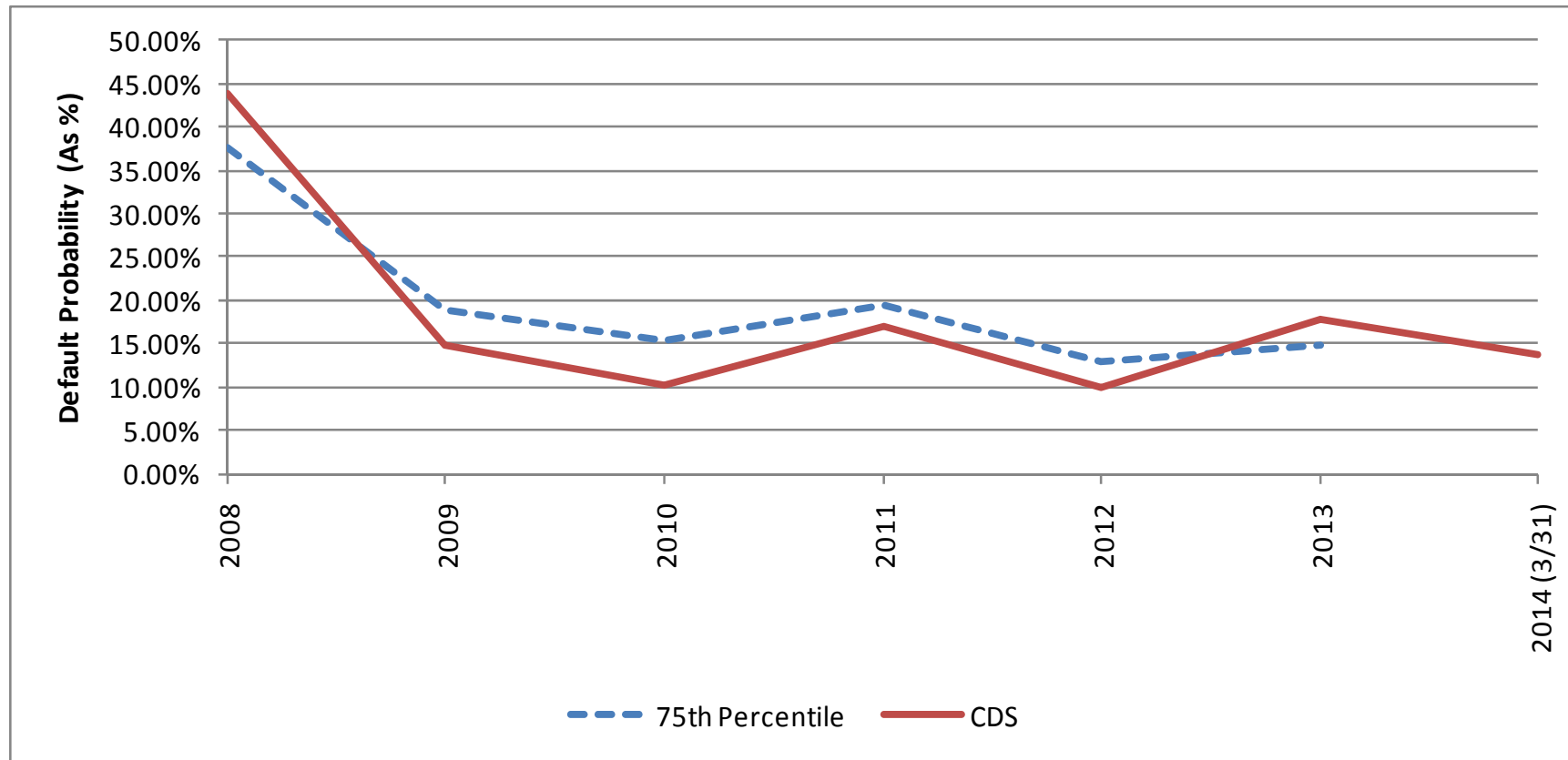


*State Bank of India. Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Indonesia, 2008 – 2014 (3/31)

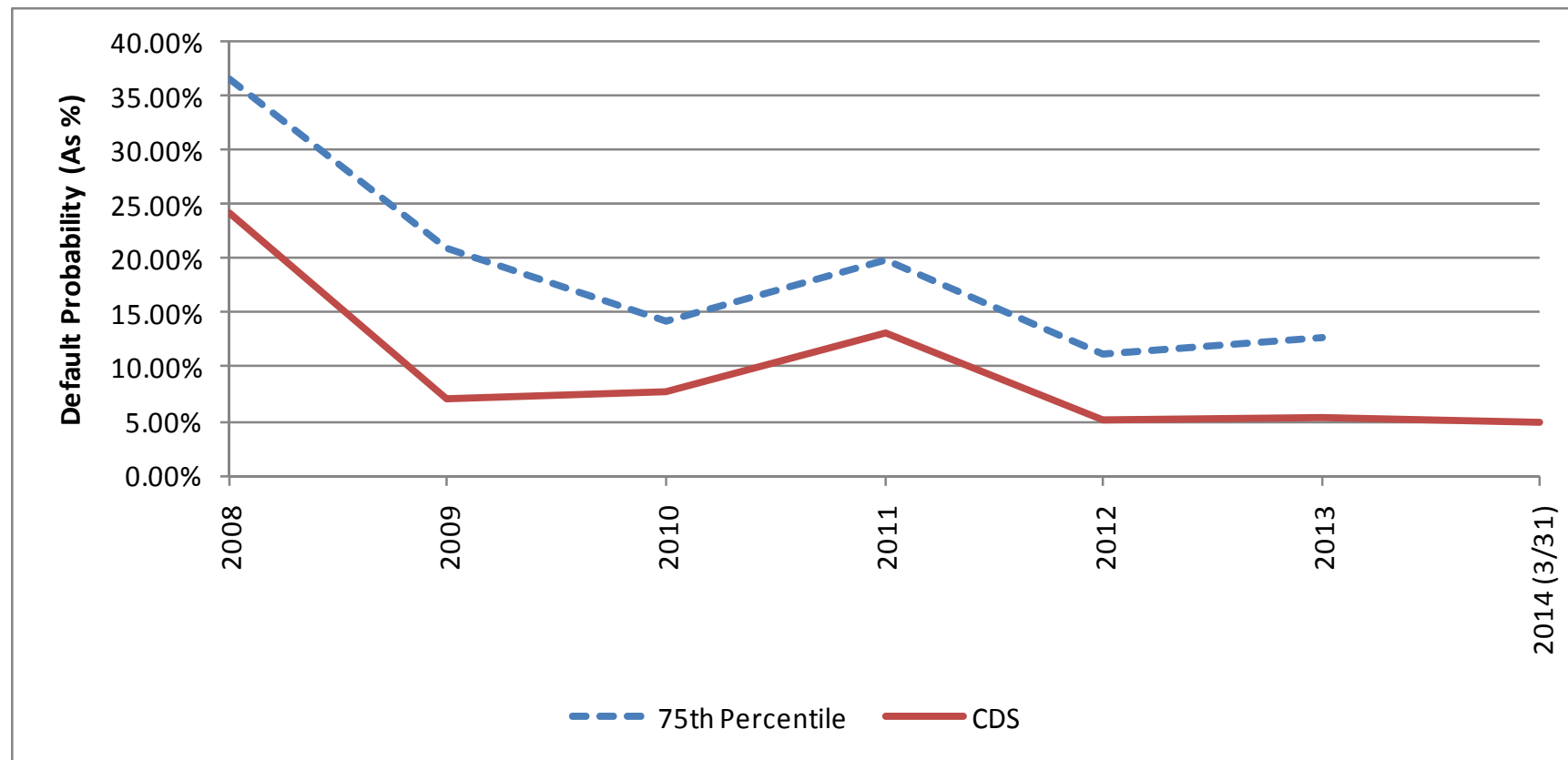


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

S. Korea, 2008 – 2014 (3/31)

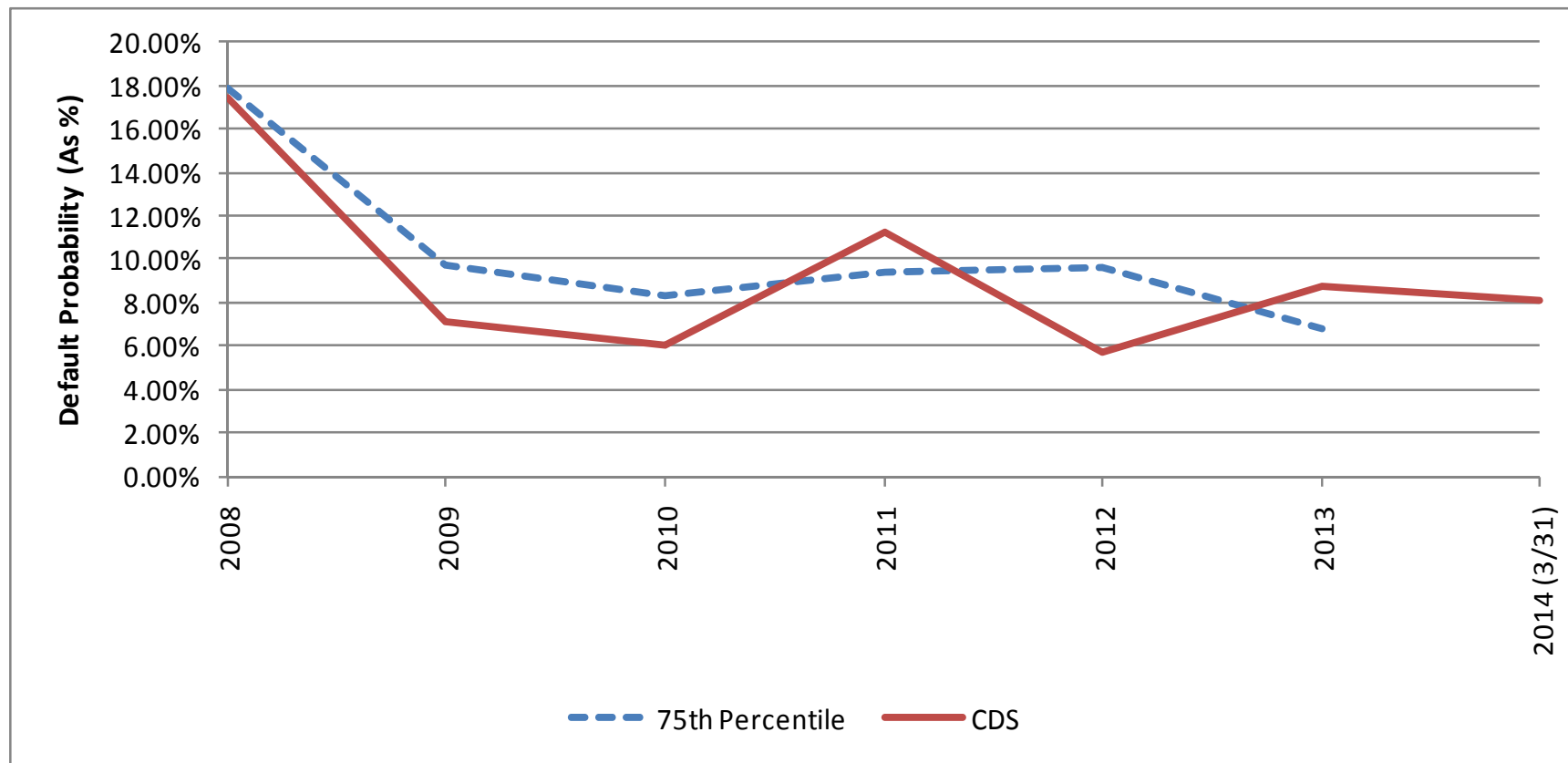


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Malaysia, 2008 – 2014 (3/31)

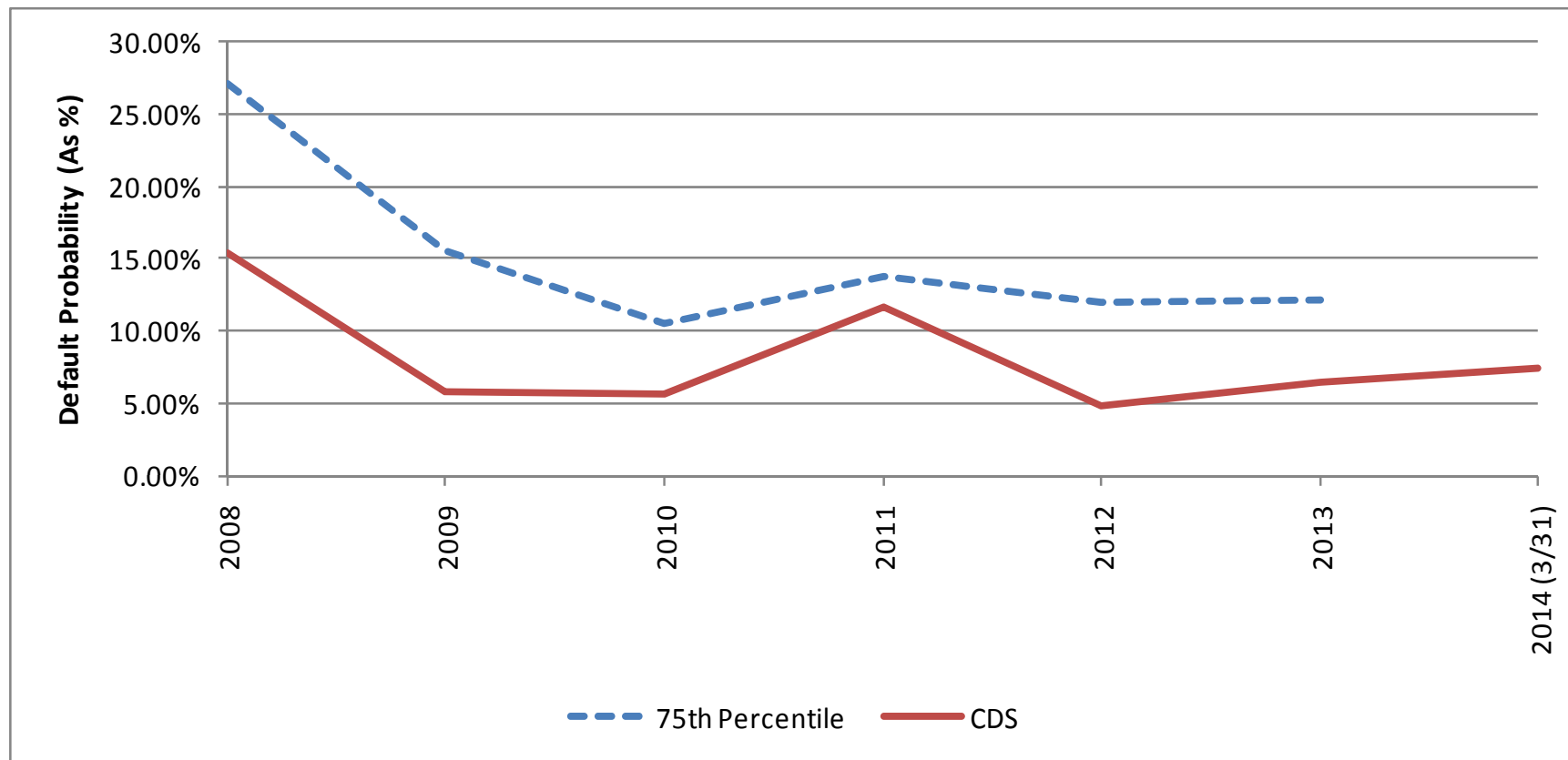


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

China, 2008 – 2014 (3/31)

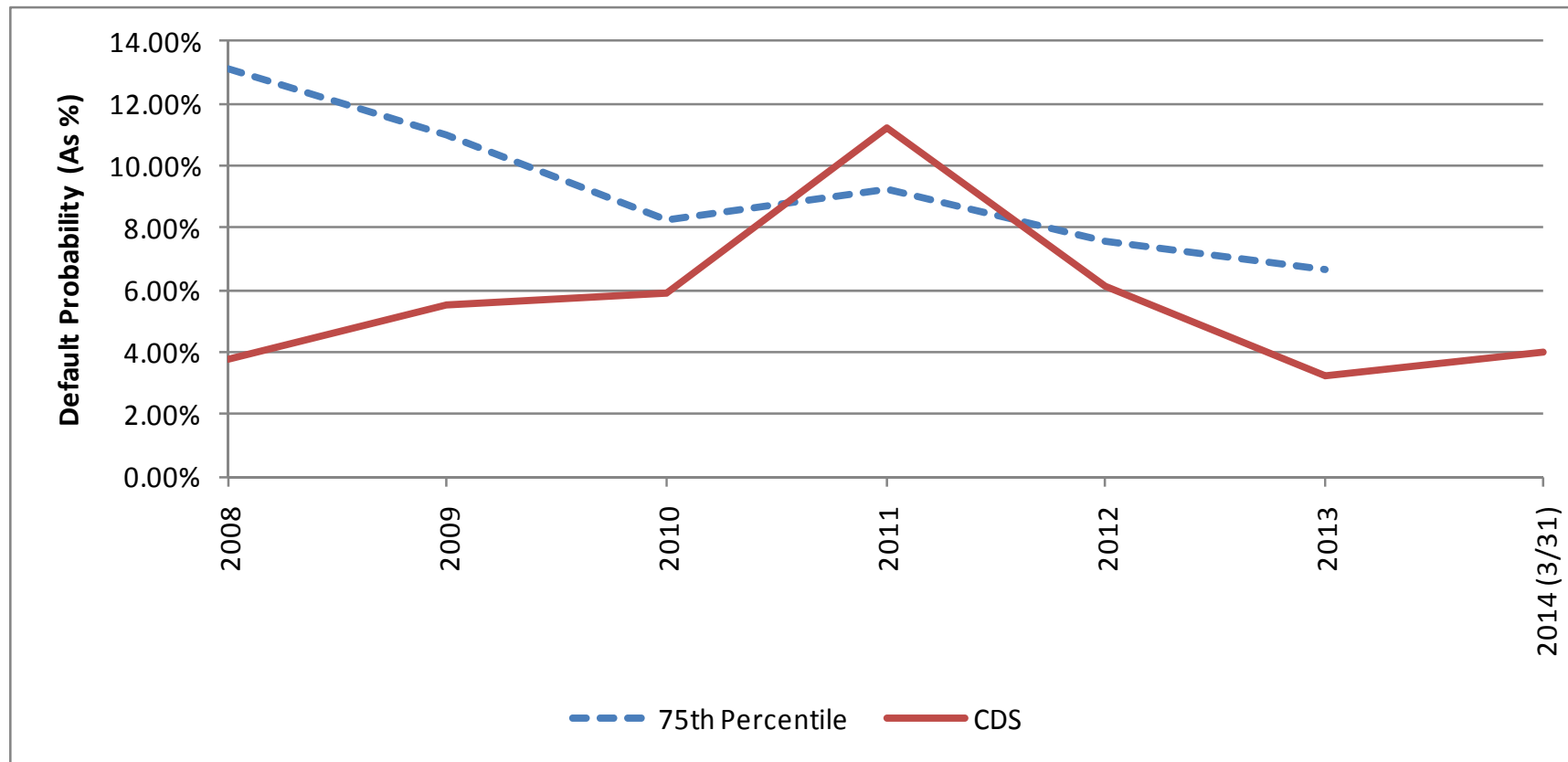


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Japan, 2008 – 2014 (3/31)

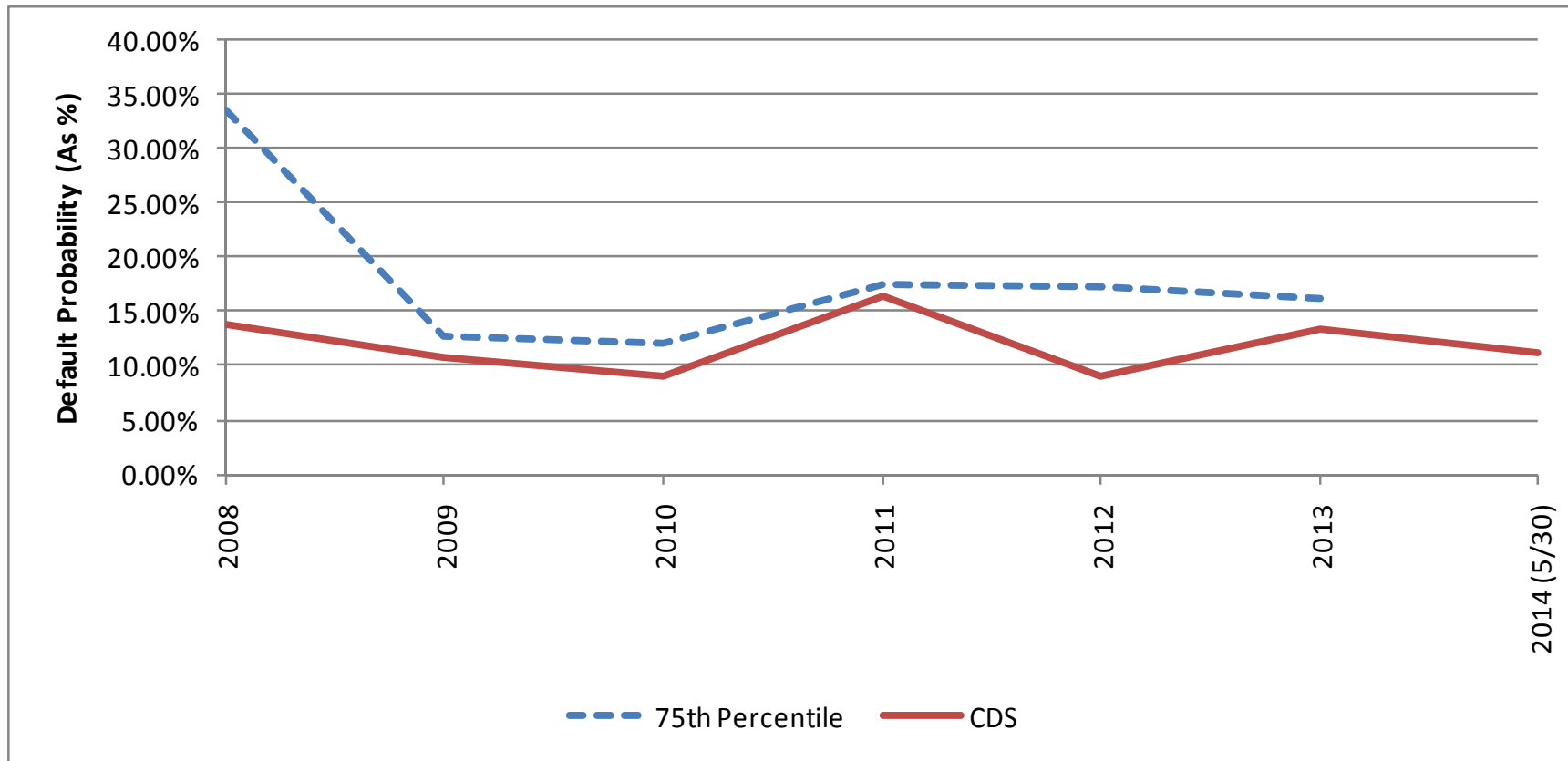


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Brazil, 2008 – 2014 (5/30)

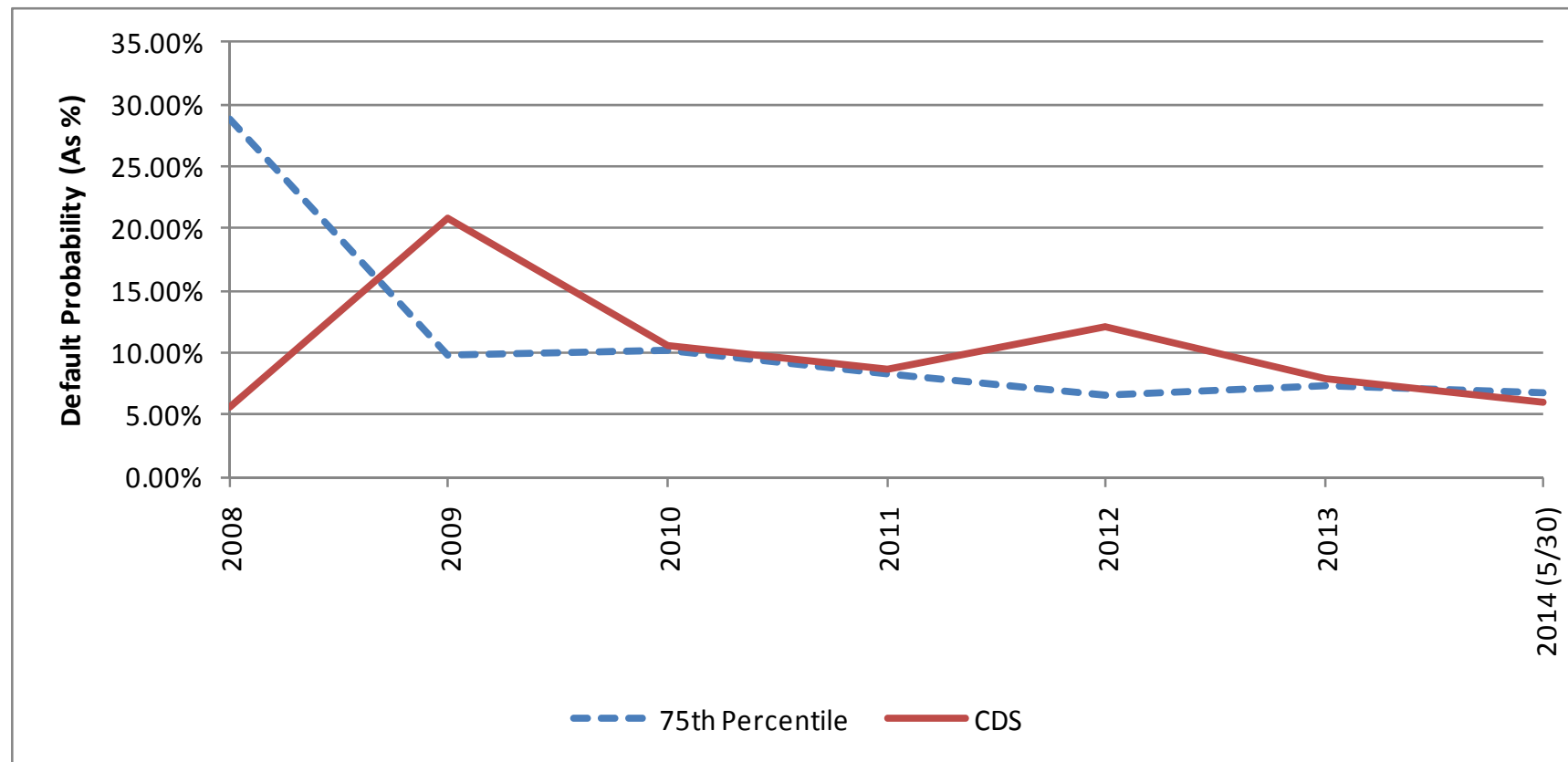


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Mexico, 2008 – 2014 (5/30)

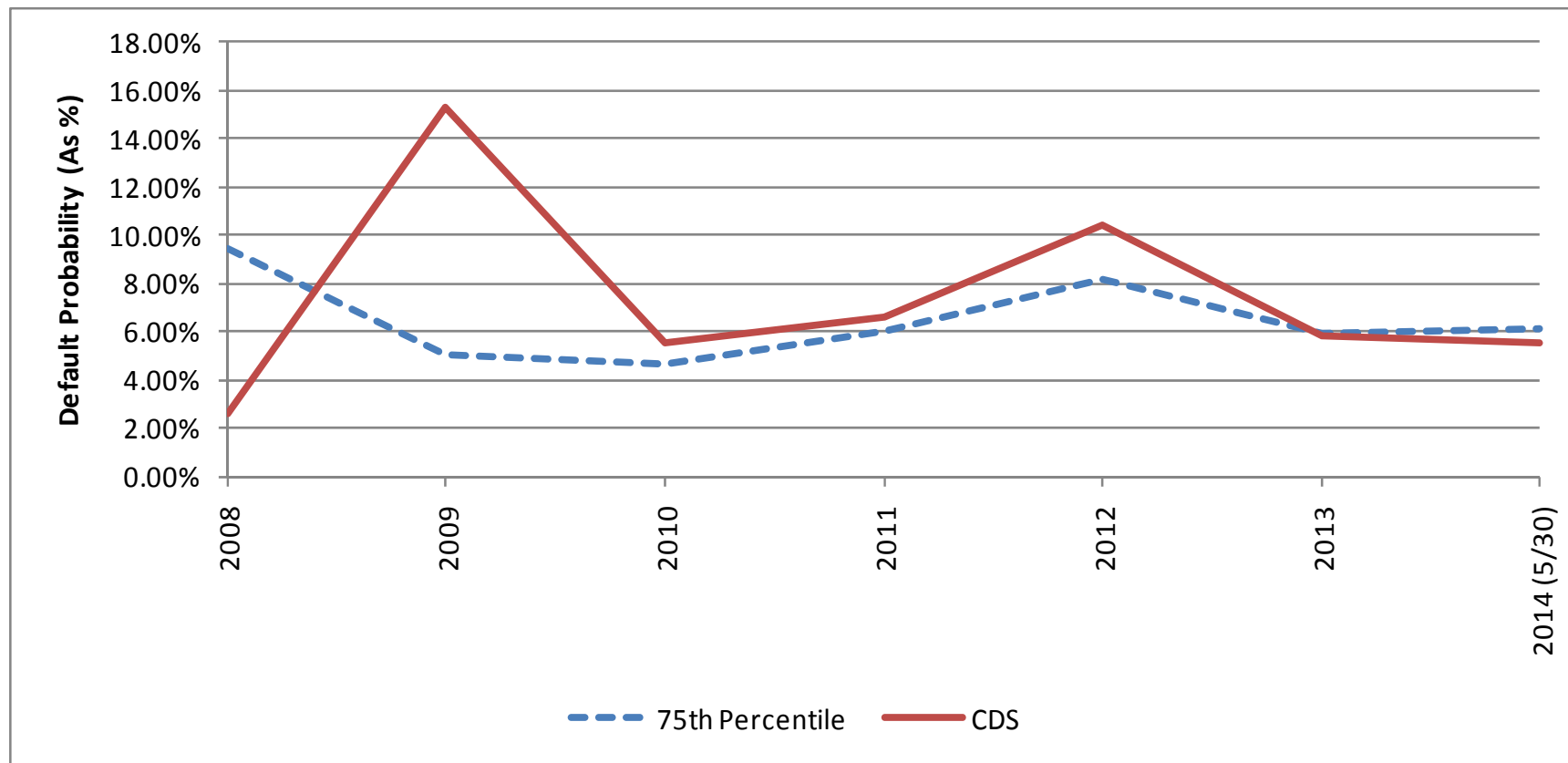


*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Five Year Implied Probabilities of Default (PD) From Sovereign CDS* Spreads vs 75th Percentile Corporate PD

Chile, 2008 – 2014 (5/30)



*Assuming a 40% recovery rate (R); based on the median CDS spread (s). PD Computed as $1 - e^{(-5*s/(1-R))}$.

Source: Bloomberg

Where to find more information

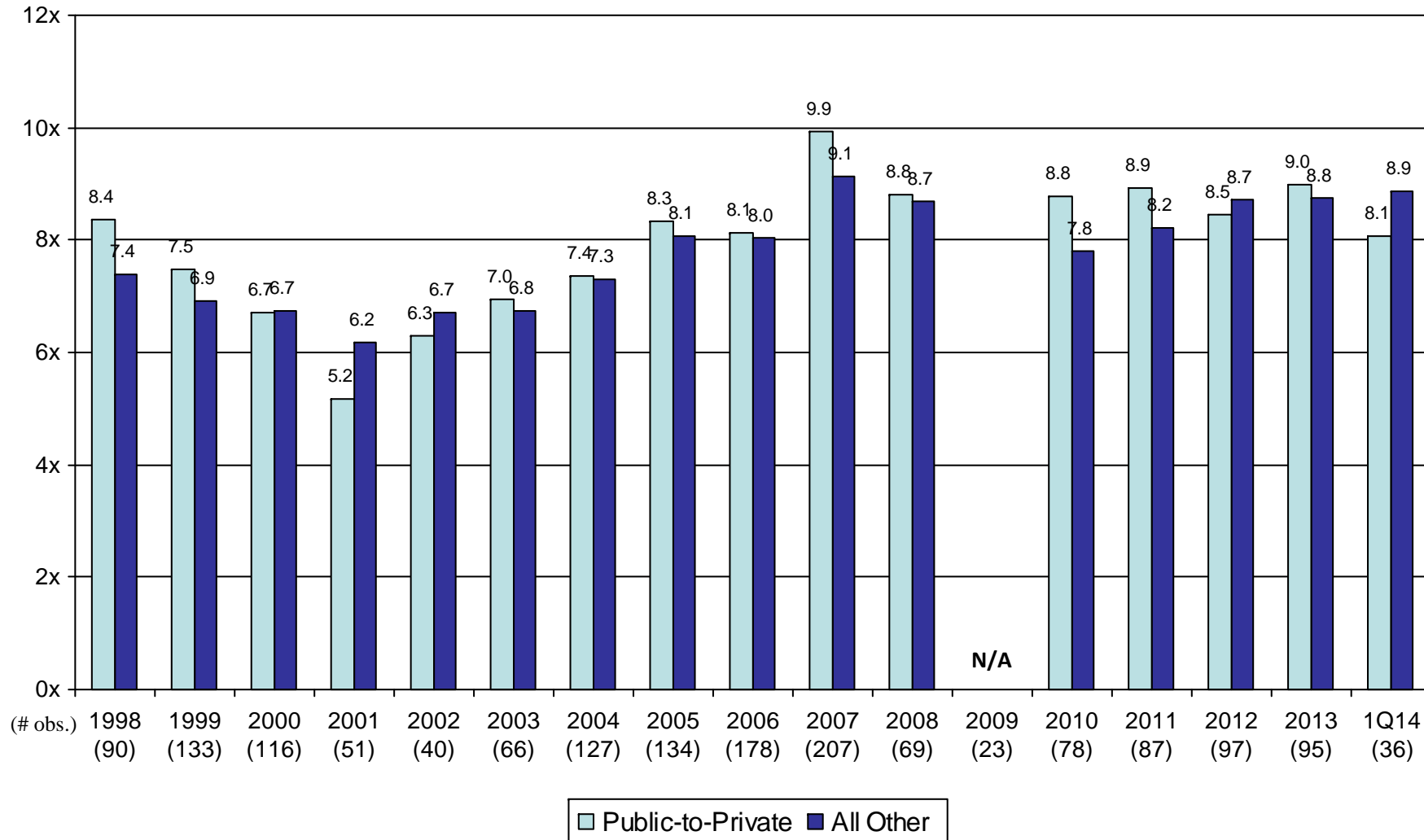
- Web Site – <http://altmanzscoreplus.com>
- E-Mail : zscore@businesscompassllc.com
- Telephone: +1 (973) 944-3989

Major Risks Going Forward (For 2014)

- Global Economy Slowdown – Primarily U.S.: Impact on Default & Recovery Rates, Credit Availability & Credit Quality
 - China
 - Europe
 - South America
- Sovereign Debt Crisis – Europe (Asia? South America?)
 - Calm in Late 2012-2013
 - Looming Corporate Defaults Despite Low (2013) Default Rate?
 - Survival of the Euro?
 - Problems in India and Indonesia, Brazil?
- Fed Balance Sheet, Money Supply and Inflation
- LBO and Covenant-Lite Risk
- Role of Collateral in the Global Financial System
- Contagion Between Markets – Debt and Equity
- Increased Investor Leverage in Stock Markets Similar to 2007
- U.S. Municipal Bond & Federal Government Default Risk
- Uncertainties (non-quantifiable)

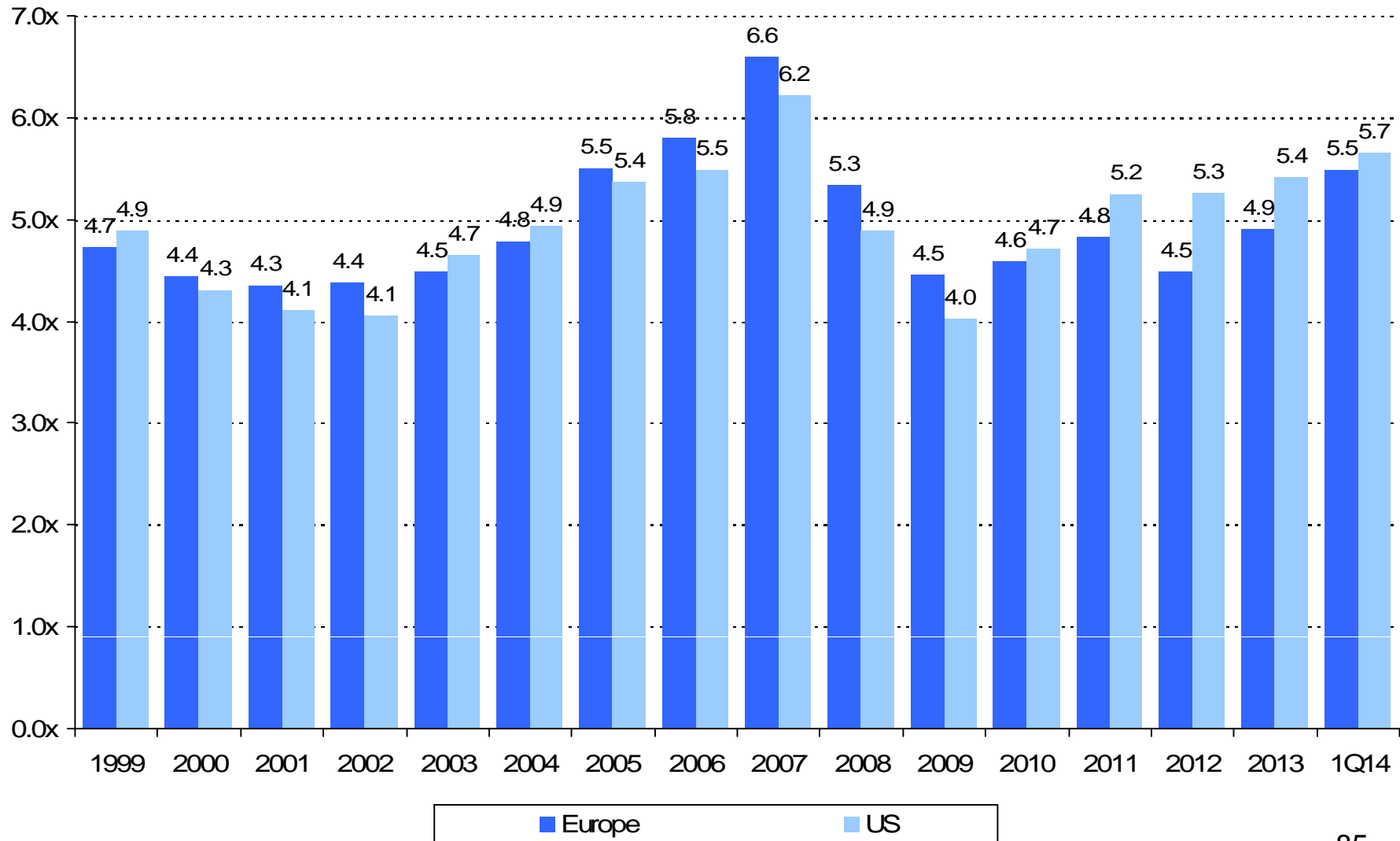
Purchase Price Multiples

Purchase Price Multiple excluding Fees for LBO Transactions



Source: S&P Capital IQ LCD

Average Total Debt Leverage Ratio for LBO's: Europe and US with EBITDA of €/\$50M or More



Source: S&P Capital IQ LCD

Major Risks Going Forward (For 2014)

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- Uncertainties (non-quantifiable)

Total Monthly Return Correlations on Various Asset Class Indexes During Stressed and Recovery Credit Cycles

		Citi HY Index	S&P 500 Stock Index
Stressed Cycle I ^a 01/1990 – 12/1991 (24 obs.)	Defaulted Bond Index	68%	12%
	S&P 500 Stock Index	48%	
Stressed Cycle II ^b 01/2001 – 12/2002 (24 obs.)	Defaulted Bond and Bank Loan Index	76%	23%
	S&P 500 Stock Index	54%	
Stressed Cycle III 01/2008 – 03/2009 (15 obs.)	Defaulted Bond and Bank Loan Index	80%	73%
	S&P 500 Stock Index	73%	
Recovery Cycle 04/2009 – 04/2011 (25 obs.)	Defaulted Bond and Bank Loan Index	71%	65%
	S&P 500 Stock Index	67%	
Full Sample Period 01/1987 – 04/2014 (328 obs.)	Defaulted Bond and Bank Loan Index ^c	64%	41%
	S&P 500 Stock Index	59%	
Most Recent Period 01/2010 – 04/2014 (52 obs.)	Defaulted Bond and Bank Loan Index	58%	57%
	S&P 500 Stock Index	76%	

^aCorrelation between Defaulted Bond Index and S&P 500 was -16% during recovery period. ^bCorrelation between Defaulted Bond and Bank Loan Index and S&P 500 was 43% during recovery period. ^cBased on only the Defaulted Bond Index from 01/1987 – 12/1995. Source: E. Altman & B. Kuehne, NYU Salomon Center

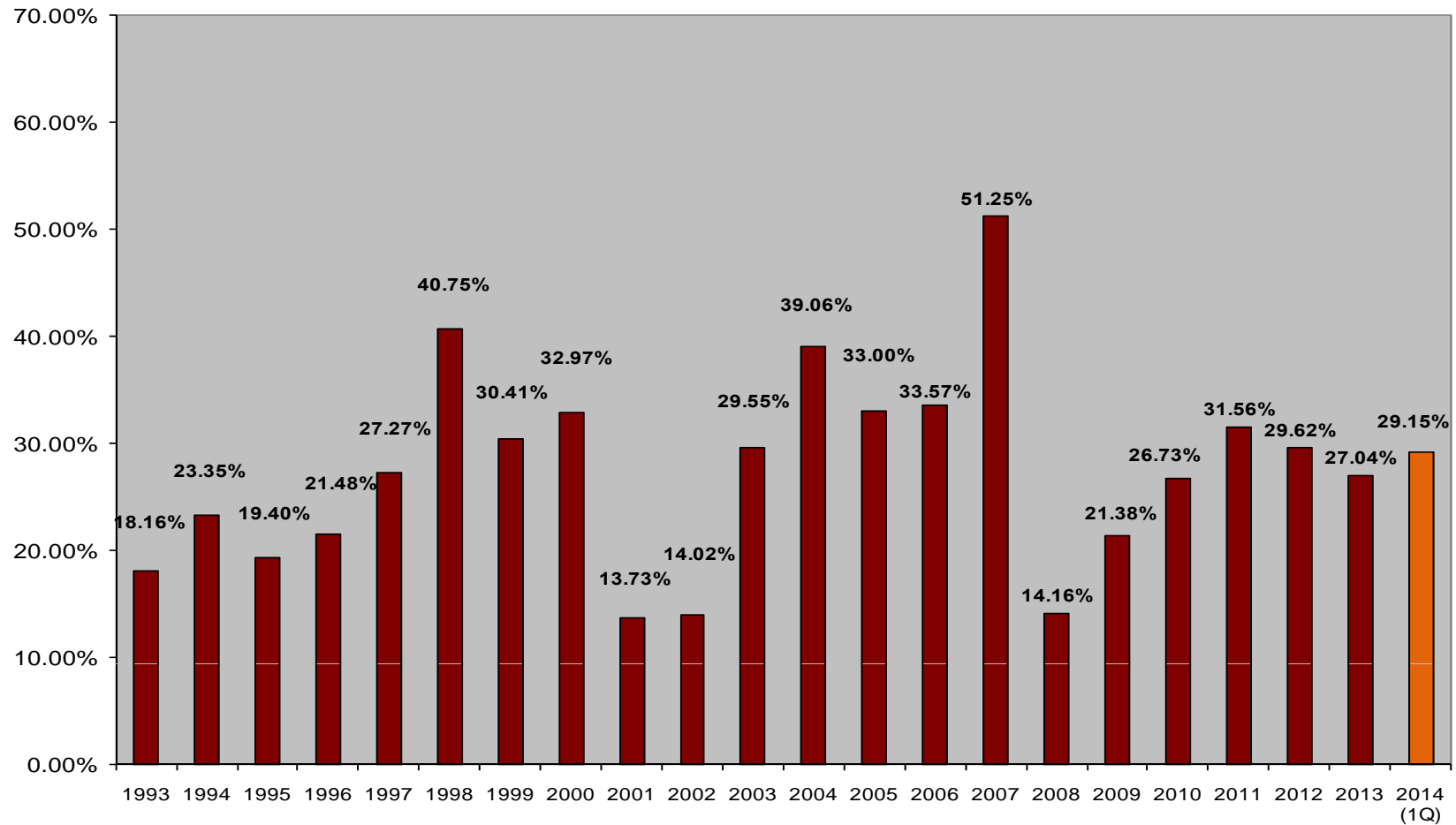
Default Rate Forecasting

Method 1:

Mortality Approach

New Issues Rated B- or Below, Based on the Dollar Amount of Issuance

(1993 - 2014 (1Q))



Source: S&P Capital IQ LCD

Marginal and Cumulative Mortality Rate Equation

$$\text{MMR}_{(t)} = \frac{\text{Total value of defaulting debt in year } (t)}{\text{total value of the population at the start of the year } (t)}$$

MMR = Marginal Mortality Rate

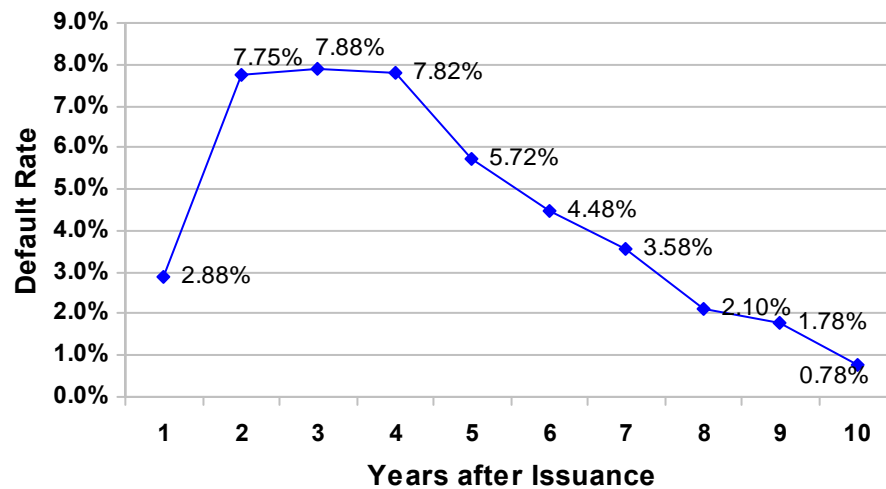
One can measure the cumulative mortality rate (CMR) over a specific time period (1,2,..., T years) by subtracting the product of the surviving populations of each of the previous years from one (1.0), that is,

$$\text{CMR}_{(t)} = 1 - \prod_{t=1} \text{SR}_{(t)},$$

here $\text{CMR}_{(t)}$ = Cumulative Mortality Rate in (t) ,
 $\text{SR}_{(t)}$ = Survival Rate in (t) , $1 - \text{MMR}_{(t)}$

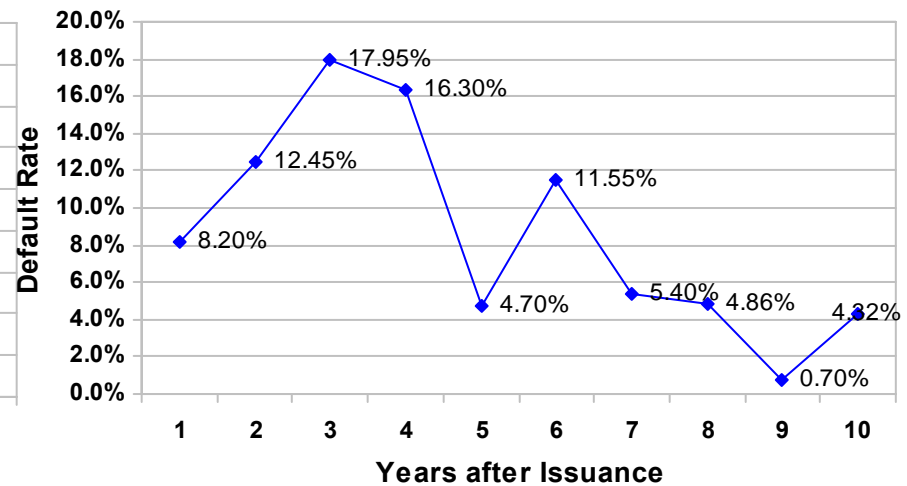
Default Lag After Issuance: 'B' & 'CCC' Rated Corporate Bonds

Default Lag after Issuance for 'B' Ratings



Source: Altman Mortality Tables (1971-2013)

Default Lag after Issuance for 'CCC' Ratings



Source: Altman Mortality Tables (1971-2013)

Mortality Rates by Original Rating

All Rated Corporate Bonds* 1971-2013

Years After Issuance

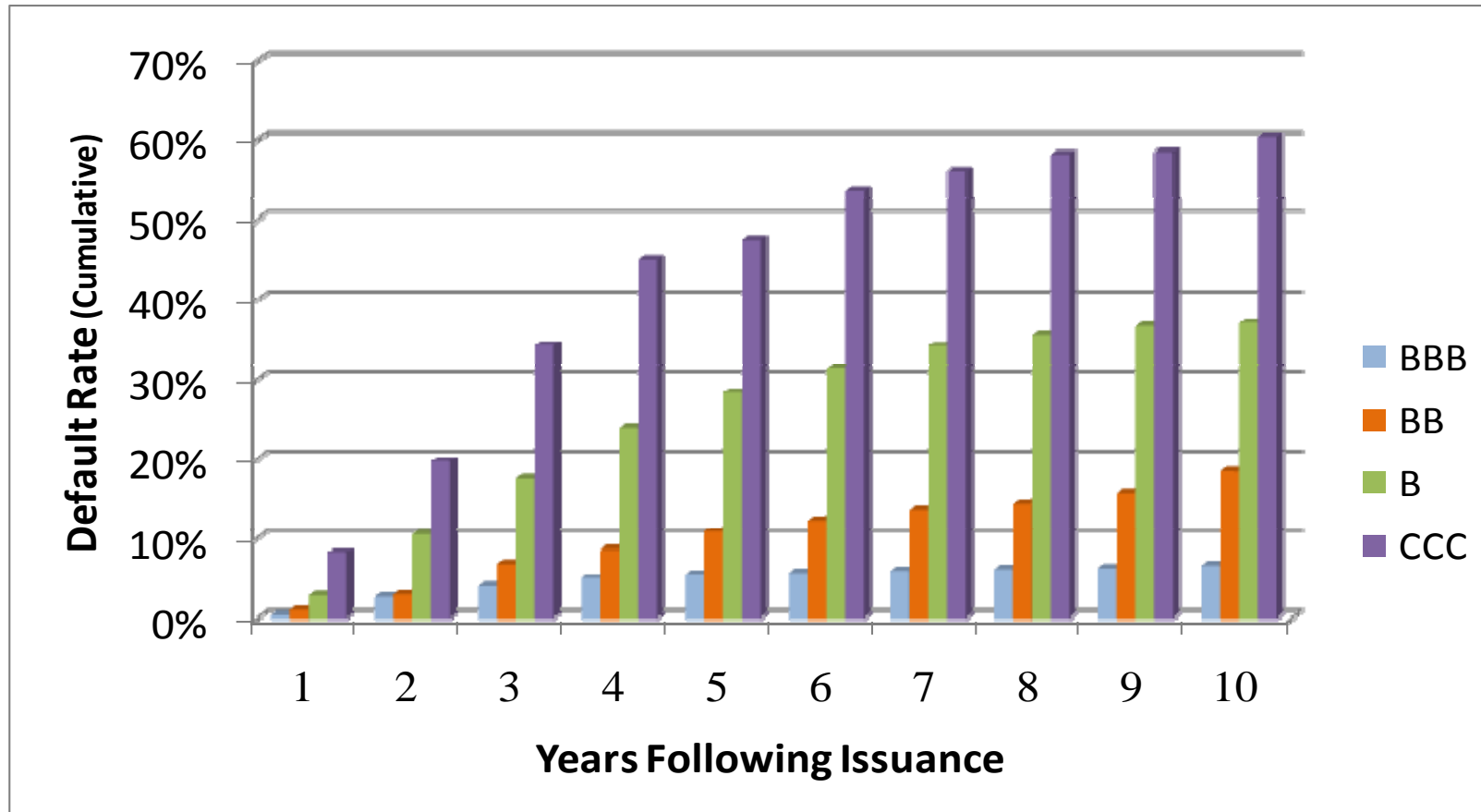
		1	2	3	4	5	6	7	8	9	10
AAA	Marginal	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%	0.01%	0.00%	0.00%	0.00%
	Cumulative	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	0.04%	0.04%	0.04%	0.04%
AA	Marginal	0.00%	0.00%	0.23%	0.09%	0.02%	0.01%	0.01%	0.01%	0.02%	0.01%
	Cumulative	0.00%	0.00%	0.23%	0.32%	0.34%	0.35%	0.36%	0.37%	0.39%	0.40%
A	Marginal	0.01%	0.04%	0.14%	0.15%	0.12%	0.08%	0.02%	0.27%	0.09%	0.06%
	Cumulative	0.01%	0.05%	0.19%	0.34%	0.46%	0.54%	0.56%	0.83%	0.92%	0.98%
BBB	Marginal	0.35%	2.40%	1.30%	1.02%	0.52%	0.25%	0.28%	0.16%	0.16%	0.34%
	Cumulative	0.35%	2.74%	4.01%	4.99%	5.48%	5.72%	5.98%	6.13%	6.28%	6.60%
BB	Marginal	0.96%	2.05%	3.92%	1.98%	2.35%	1.50%	1.48%	1.13%	1.47%	3.16%
	Cumulative	0.96%	2.99%	6.79%	8.64%	10.79%	12.12%	13.42%	14.40%	15.66%	18.33%
B	Marginal	2.88%	7.75%	7.88%	7.82%	5.72%	4.48%	3.58%	2.10%	1.78%	0.78%
	Cumulative	2.88%	10.41%	17.47%	23.92%	28.27%	31.49%	33.94%	35.33%	36.48%	36.97%
CCC	Marginal	8.20%	12.45%	17.95%	16.30%	4.70%	11.55%	5.40%	4.86%	0.70%	4.32%
	Cumulative	8.20%	19.63%	34.06%	44.80%	47.40%	53.47%	55.99%	58.13%	58.42%	60.22%

*Rated by S&P at Issuance
Based on 2,779 issues

Source: Standard & Poor's (New York) and Author's Compilation

Cumulative Default Rates by Rating (S&P)

1971 - 2013



Source: Standard & Poor's (New York) and E. Altman's Mortality Rate Compilation

Mortality Losses by Original Rating

All Rated Corporate Bonds*
1971-2013

Years After Issuance

		1	2	3	4	5	6	7	8	9	10
AAA	Marginal	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%
	Cumulative	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%	0.03%	0.03%	0.03%	0.03%
AA	Marginal	0.00%	0.00%	0.03%	0.03%	0.01%	0.01%	0.00%	0.01%	0.01%	0.01%
	Cumulative	0.00%	0.00%	0.03%	0.06%	0.07%	0.08%	0.08%	0.09%	0.10%	0.11%
A	Marginal	0.00%	0.02%	0.06%	0.07%	0.07%	0.04%	0.02%	0.03%	0.06%	0.03%
	Cumulative	0.00%	0.02%	0.08%	0.15%	0.22%	0.26%	0.28%	0.31%	0.37%	0.40%
BBB	Marginal	0.25%	1.56%	0.78%	0.60%	0.28%	0.15%	0.17%	0.10%	0.10%	0.19%
	Cumulative	0.25%	1.81%	2.57%	3.16%	3.43%	3.57%	3.74%	3.83%	3.93%	4.11%
BB	Marginal	0.57%	1.19%	2.33%	1.13%	1.34%	0.72%	0.80%	0.50%	0.76%	1.12%
	Cumulative	0.57%	1.75%	4.04%	5.13%	6.40%	7.07%	7.82%	8.28%	8.97%	9.99%
B	Marginal	1.93%	5.42%	5.35%	5.23%	3.78%	2.46%	2.33%	1.16%	0.93%	0.54%
	Cumulative	1.93%	7.25%	12.21%	16.80%	19.94%	21.91%	23.73%	24.62%	25.32%	25.72%
CCC	Marginal	5.41%	8.71%	12.56%	11.48%	3.33%	8.66%	4.05%	3.40%	0.43%	2.76%
	Cumulative	5.41%	13.65%	24.49%	33.16%	35.39%	40.98%	43.37%	45.30%	45.53%	47.04%

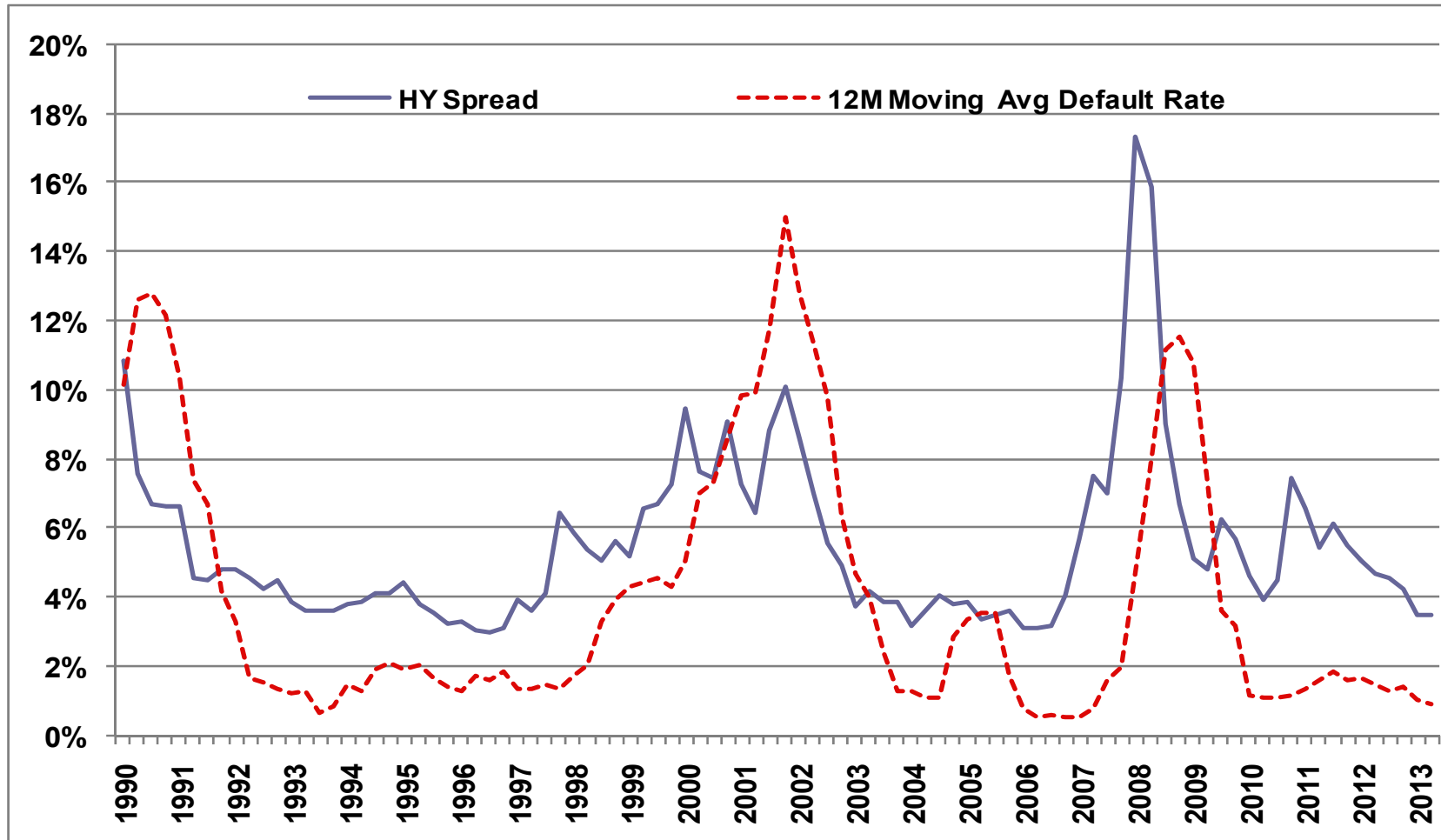
*Rated by S&P at Issuance
Based on 2,290 issues

Source: Standard & Poor's (New York) and Author's Compilation

Methods 2 & 3: Market-Based Measures

Default Rates vs HY Spreads:

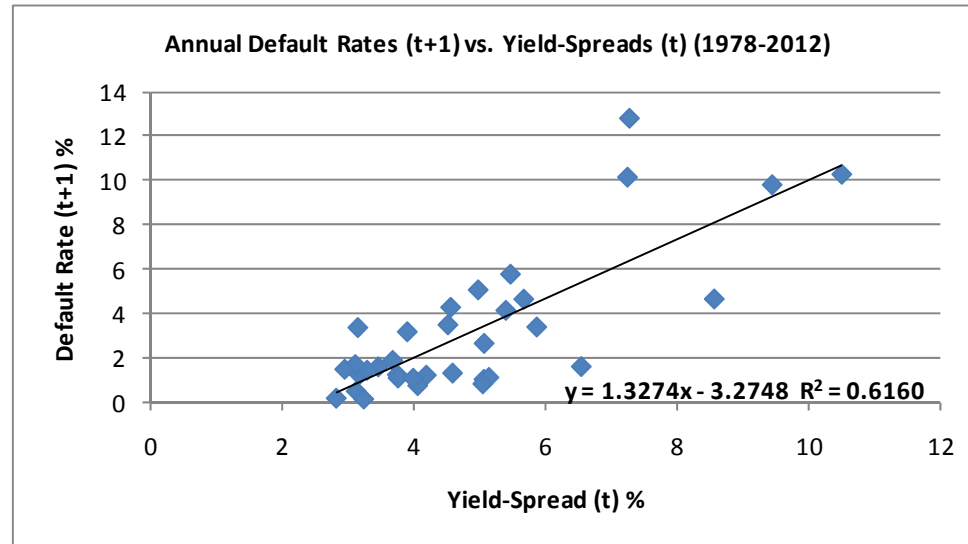
1990 – 2014 (1Q), Quarterly



Sources: Citi Yield Book and Altman-Kuehne Default Rate data.

Updated Market-Based Annual Default Rate Forecast

Annual Default Rate (t+1) versus High-Yield Spreads (t)



The regression equation is

$$\text{Default Rate} = - 3.27 + 1.33 * \text{Spread}$$

Predictor	Coef	SE Coef	T	P
Constant	-3.2748	0.9693	-3.3782	0.0019
Spread	1.3274	0.1853	7.1642	0.0000

S = 2.0064 R-Sq = 61.6% R-Sq(adj) = 60.4%

Application

Yield spread (12/30/2011) of 654bp, forecast P_D for 2012 = **4.80%** vs. actual of 1.62%

Yield spread (12/31/2012) of 506bp, forecast P_D for 12/31/2013 = **3.32%** vs. actual of 1.04%

Yield spread (12/31/2013) of 345bp, forecast P_D for 12/31/2014 = **1.30%**

Yield spread (05/30/2014) of 359bp, forecast PD for 05/30/2015 = **1.49%**

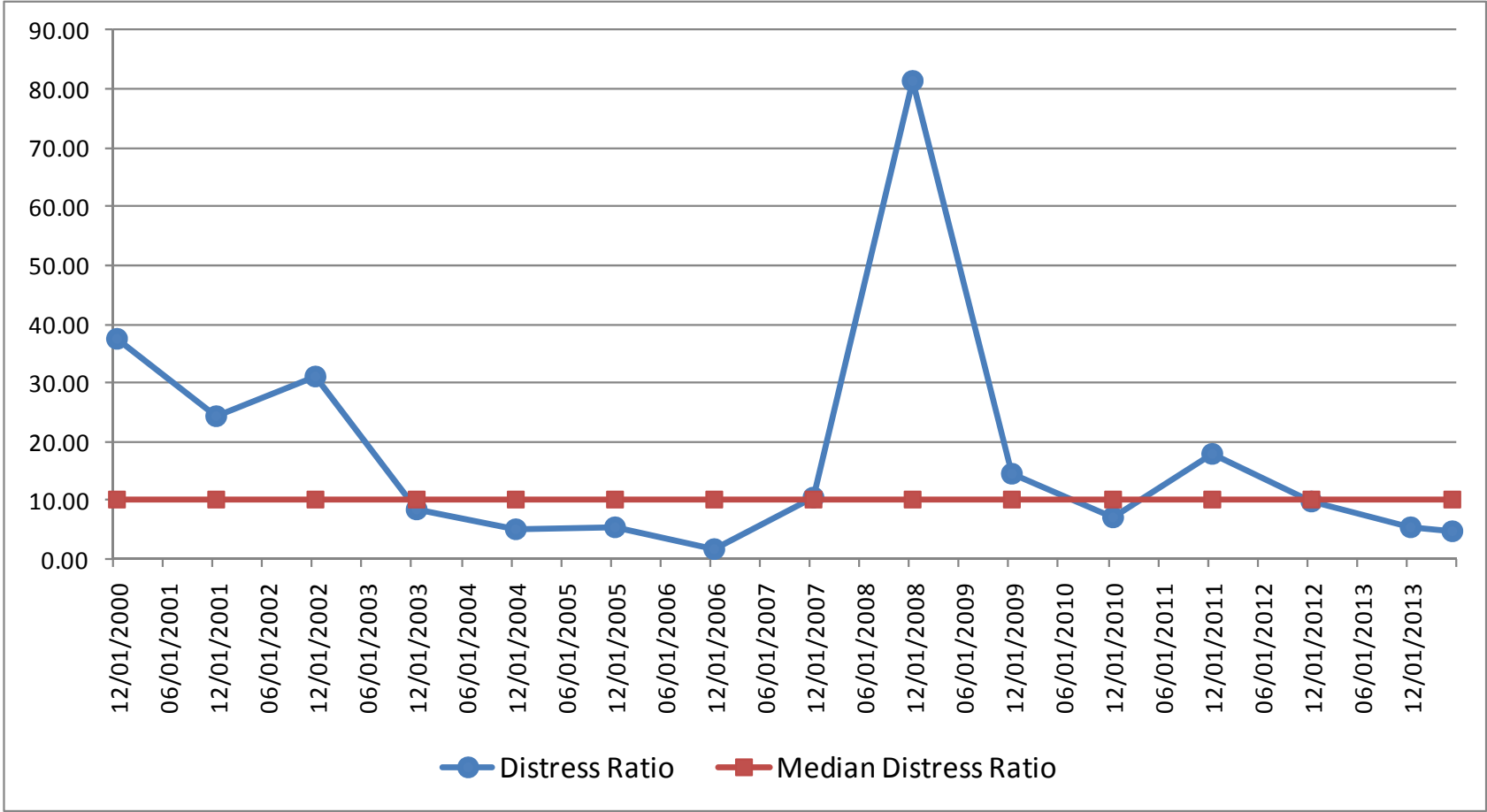
Distress Ratio History

2000 – 2014 (5/30)

Date	Distress Ratio	Annual Default Rate (t+1)	Default Rate_(t+1) /Distress Ratio_(t) (%)
12/31/2000	37.33	9.80	26.25
12/31/2001	24.36	12.79	52.52
12/31/2002	31.21	4.66	14.93
12/31/2003	8.40	1.25	14.86
12/31/2004	4.96	3.37	68.05
12/31/2005	5.47	0.76	13.92
12/31/2006	1.62	0.51	31.44
12/31/2007	10.35	4.65	44.97
12/31/2008	81.29	10.74	13.22
12/31/2009	14.53	1.13	7.78
12/31/2010	7.19	1.33	18.43
12/31/2011	17.88	1.62	9.06
12/31/2012	9.88	1.04	10.57
12/31/2013	5.29	n/a	n/a
5/30/2014	4.60	n/a	n/a
Average	18.55	4.13	22.25
Median	10.11	1.62	14.93

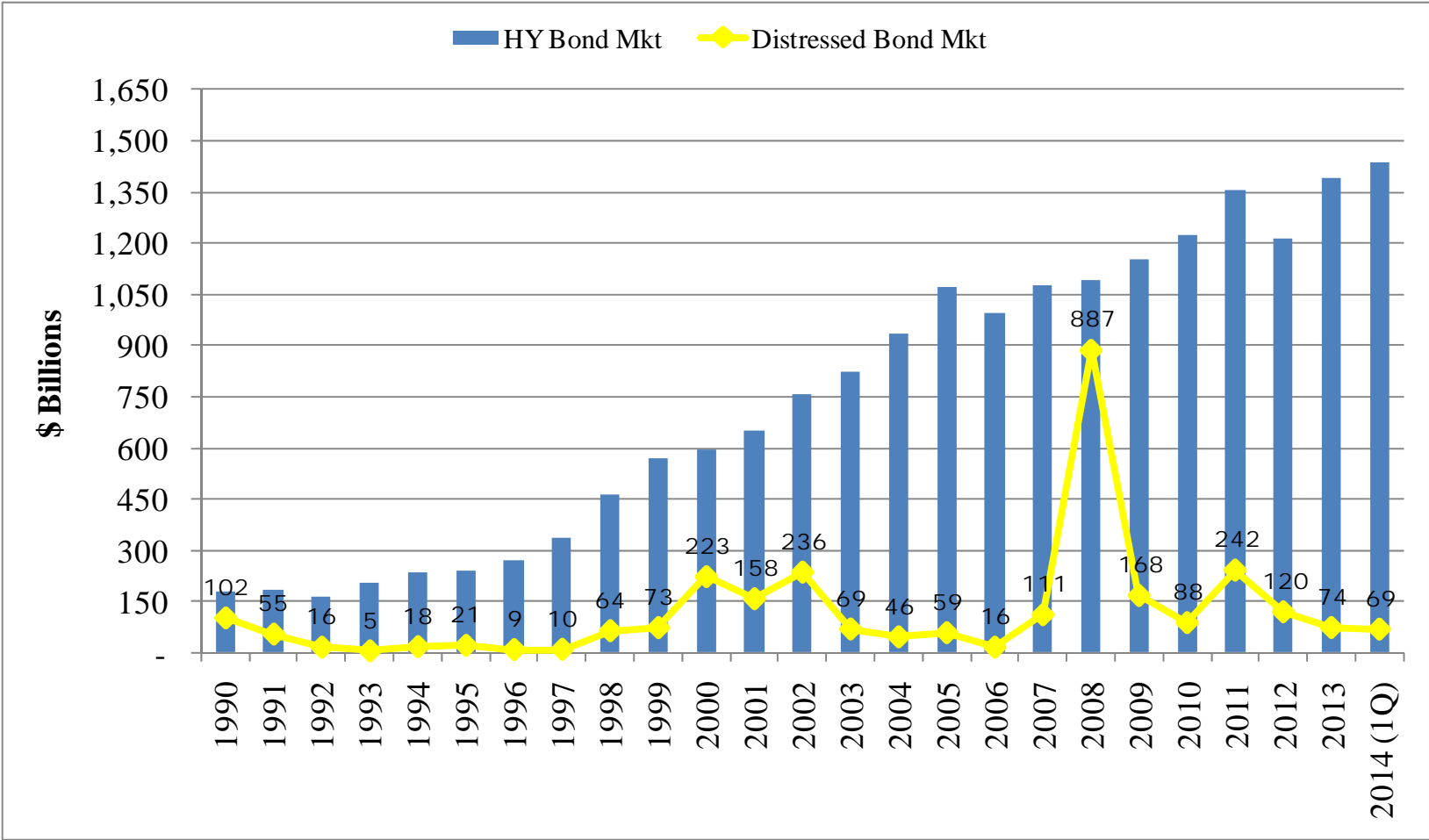
Sources: Bank of America Merrill Lynch & NYU Salomon Center

Distress Ratio History 2000 - 2014 (5/30)



Source: Bank of America Merrill Lynch

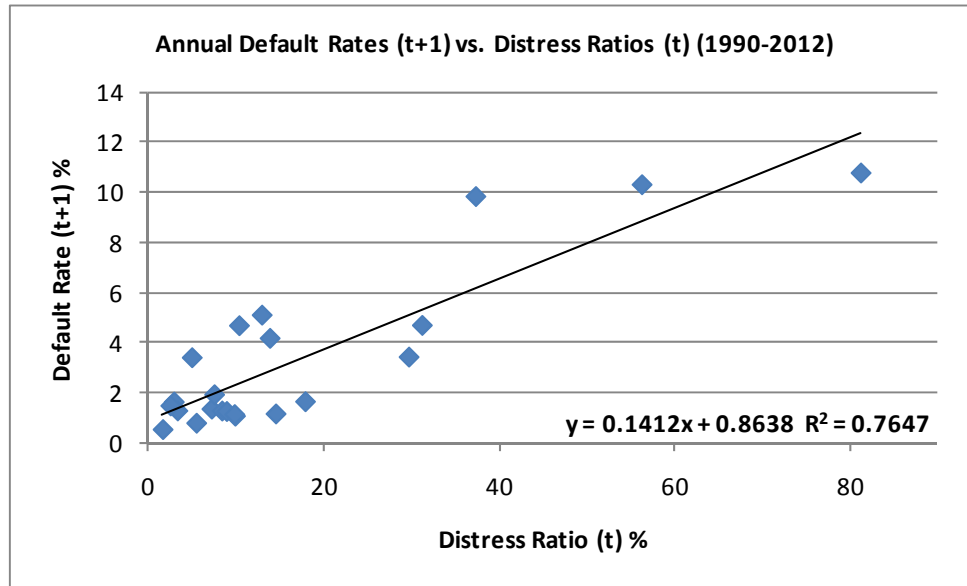
Estimated Size of the Distressed Bond Market Based on Distress Ratio



Sources: Distress Ratio used in calculations from BofAML. HY Bond Market size from NYU Salomon Center estimates.

Updated Market-Based Annual Default Rate Forecast

Annual Default Rate (t+1) versus Distressed Ratio (t)



The regression equation is

$$\text{Default Rate} = 0.86 + 0.14 * \text{Distress Ratio}$$

Predictor	Coef	SE Coef	T	P
Constant	0.8634	0.4504	1.9170	0.0696
Spread	0.1412	0.0175	8.0626	0.0000

$$S = 1.5731 \quad R\text{-Sq} = 76.5\% \quad R\text{-Sq(adj)} = 75.3\%$$

Application

Distress ratio (12/30/2011) of 17.88%, forecast P_D for 2012 = **3.93%** vs. actual of 1.62%

Distress ratio (12/31/2012) of 9.88%, forecast P_D for 12/31/2013 = **2.65%** vs. actual of 1.04%

Distress ratio (12/31/2013) of 5.29%, forecast P_D for 12/31/2014 = **1.61%**

Distress ratio (05/30/2014) of 4.60%, forecast P_D for 05/30/2015 = **1.51%**

Default and Recovery Forecasts: Summary of Forecast Models

Model	2013 (12/31) Default Rate Forecast as of 12/31/2012	2014 (12/31) Default Rate Forecast as of 12/31/2013	2015 (05/21) Default Rate Forecast as of 05/21/2014
Mortality Rate	3.73%	3.25%	3.25%
Yield-Spread	3.32% ^a	1.30% ^c	1.49% ^e
Distress Ratio	2.65% ^b	1.61% ^d	1.51% ^f
Average of Models Recovery Rates*	3.23% 39.7%	2.05% 44.5%	2.08% 44.4%

* Recovery rate based on the log Linear equation between default and recovery rates, see Altman, et al (2005) Journal of Business, November and Slide 80. ^a Based on Dec. 31, 2012 yield-spread of 505.8bp. ^b Based on Dec. 31, 2012 Distress Ratio of 9.88%. ^c Based on Dec.31, 2013 yield-spread of 344.6bp. ^d Based on Dec. 31, 2013 Distress Ratio of 5.29%. ^e Based on May. 30, 2014 yield-spread of 358.7bp. ^f Based on May 30, 2014 Distress Ratio of 4.60%.

Source: All Corporate Bond Issuance and Authors' Estimates of Market Size in 2013 & 2014.

Recovery Rate Analysis

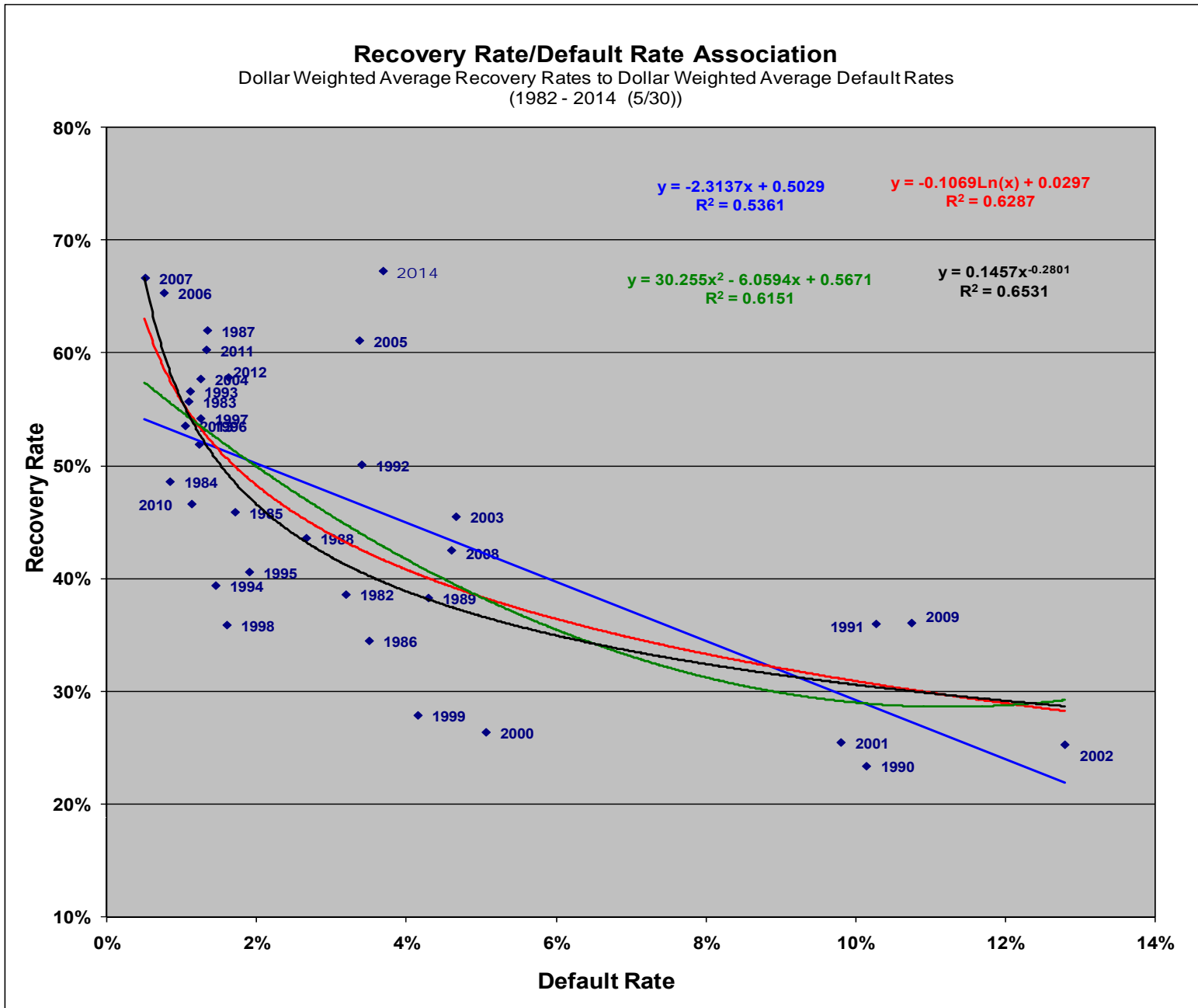
Default Rates and Losses^a

1978 – 2014 (5/30)

Year	Par Value Outstanding (\$MM)	Par Value Defaults (\$MM)	Default Rate (%)	Weighted Price After Default (\$)	Weighted Coupon (%)	Default Loss (%)
2014 (5/30)	1,436,828	22,071	1.54	65.3	10.68	0.58
2013	1,392,212	14,539	1.04	53.6	10.04	0.54
2012	1,212,362	19,647	1.62	57.8	8.97	0.76
2011	1,354,649	17,963	1.33	60.3	9.10	0.59
2010	1,221,569	13,809	1.13	46.6	10.59	0.66
2009	1,152,952	123,878	10.74	36.1	8.16	7.30
2008	1,091,000	50,763	4.65	42.5	8.23	2.83
2007	1,075,400	5,473	0.51	66.6	9.64	0.19
2006	993,600	7,559	0.76	65.3	9.33	0.30
2005	1,073,000	36,209	3.37	61.1	8.61	1.46
2004	933,100	11,657	1.25	57.7	10.30	0.61
2003	825,000	38,451	4.66	45.5	9.55	2.76
2002	757,000	96,858	12.79	25.3	9.37	10.15
2001	649,000	63,609	9.80	25.5	9.18	7.76
2000	597,200	30,248	5.06	26.4	8.54	3.94
1999	567,400	23,532	4.15	27.9	10.55	3.21
1998	465,500	7,464	1.60	35.9	9.46	1.10
1997	335,400	4,200	1.25	54.2	11.87	0.65
1996	271,000	3,336	1.23	51.9	8.92	0.65
1995	240,000	4,551	1.90	40.6	11.83	1.24
1994	235,000	3,418	1.45	39.4	10.25	0.96
1993	206,907	2,287	1.11	56.6	12.98	0.56
1992	163,000	5,545	3.40	50.1	12.32	1.91
1991	183,600	18,862	10.27	36.0	11.59	7.16
1990	181,000	18,354	10.14	23.4	12.94	8.42
1989	189,258	8,110	4.29	38.3	13.40	2.93
1988	148,187	3,944	2.66	43.6	11.91	1.66
1987	129,557	7,486	5.78	75.9	12.07	1.74
1986	90,243	3,156	3.50	34.5	10.61	2.48
1985	58,088	992	1.71	45.9	13.69	1.04
1984	40,939	344	0.84	48.6	12.23	0.48
1983	27,492	301	1.09	55.7	10.11	0.54
1982	18,109	577	3.19	38.6	9.61	2.11
1981	17,115	27	0.16	12.0	15.75	0.15
1980	14,935	224	1.50	21.1	8.43	1.25
1979	10,356	20	0.19	31.0	10.63	0.14
1978	8,946	119	1.33	60.0	8.38	0.59
Arithmetic Average 1978 – 2013			3.37	45.87	10.53	2.24
Weighted Average 1978 - 2013			3.61			2.34

^a Excludes defaulted issues.

Source: Authors' compilations and various dealer price quotes.



Note: 2014 Default Rate is Annualized

Source: E. Altman, et. al., "The Link Between Default and Recovery Rates", NYU Salomon Center, S-03-4.

Annual Returns (1978 – 2014 (5/30))

Yields and Spreads on 10-Year Treasury (Treas) and High Yield (HY) Bonds

Year	Return (%)			Promised Yield (%)		
	HY	Treas	Spread	HY	Treas	Spread
2014 (5/30)	4.54	6.46	(1.92)	6.02	2.43	3.59
2013	7.22	(7.85)	15.06	6.45	3.01	3.45
2012	15.17	4.23	10.95	6.80	1.74	5.06
2011	5.52	16.99	(11.47)	8.41	1.88	6.54
2010	14.32	8.10	6.22	7.87	3.29	4.58
2009	55.19	(9.92)	65.11	8.97	3.84	5.14
2008	(25.91)	20.30	(46.21)	19.53	2.22	17.31
2007	1.83	9.77	(7.95)	9.69	4.03	5.66
2006	11.85	1.37	10.47	7.82	4.70	3.11
2005	2.08	2.04	0.04	8.44	4.39	4.05
2004	10.79	4.87	5.92	7.35	4.21	3.14
2003	30.62	1.25	29.37	8.00	4.26	3.74
2002	(1.53)	14.66	(16.19)	12.38	3.82	8.56
2001	5.44	4.01	1.43	12.31	5.04	7.27
2000	(5.68)	14.45	(20.13)	14.56	5.12	9.44
1999	1.73	(8.41)	10.14	11.41	6.44	4.97
1998	4.04	12.77	(8.73)	10.04	4.65	5.39
1997	14.27	11.16	3.11	9.20	5.75	3.45
1996	11.24	0.04	11.20	9.58	6.42	3.16
1995	22.40	23.58	(1.18)	9.76	5.58	4.18
1994	(2.55)	(8.29)	5.74	11.50	7.83	3.67
1993	18.33	12.08	6.25	9.08	5.80	3.28
1992	18.29	6.50	11.79	10.44	6.69	3.75
1991	43.23	17.18	26.05	12.56	6.70	5.86
1990	(8.46)	6.88	(15.34)	18.57	8.07	10.50
1989	1.98	16.72	(14.74)	15.17	7.93	7.24
1988	15.25	6.34	8.91	13.70	9.15	4.55
1987	4.57	(2.67)	7.24	13.89	8.83	5.06
1986	16.50	24.08	(7.58)	12.67	7.21	5.46
1985	26.08	31.54	(5.46)	13.50	8.99	4.51
1984	8.50	14.82	(6.32)	14.97	11.87	3.10
1983	21.80	2.23	19.57	15.74	10.70	5.04
1982	32.45	42.08	(9.63)	17.84	13.86	3.98
1981	7.56	0.48	7.08	15.97	12.08	3.89
1980	(1.00)	(2.96)	1.96	13.46	10.23	3.23
1979	3.69	(0.86)	4.55	12.07	9.13	2.94
1978	7.57	(1.11)	8.68	10.92	8.11	2.81
Arithmetic Annual Average						
1978-2013	10.95	8.01	2.94	11.68	6.49	5.20
Compound Annual Average						
1978-2013	10.03	7.44	2.58			

^a End-of-year yields. ^b Lowest yield in time series. Source: Citigroup's High Yield Composite Index

Historic H.Y. Bond Return Estimation

Historic Yield-Spread	5.20%
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Less: Historic Annual Loss from Defaults	(2.38)
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Historic Expected Return Spread	2.82%
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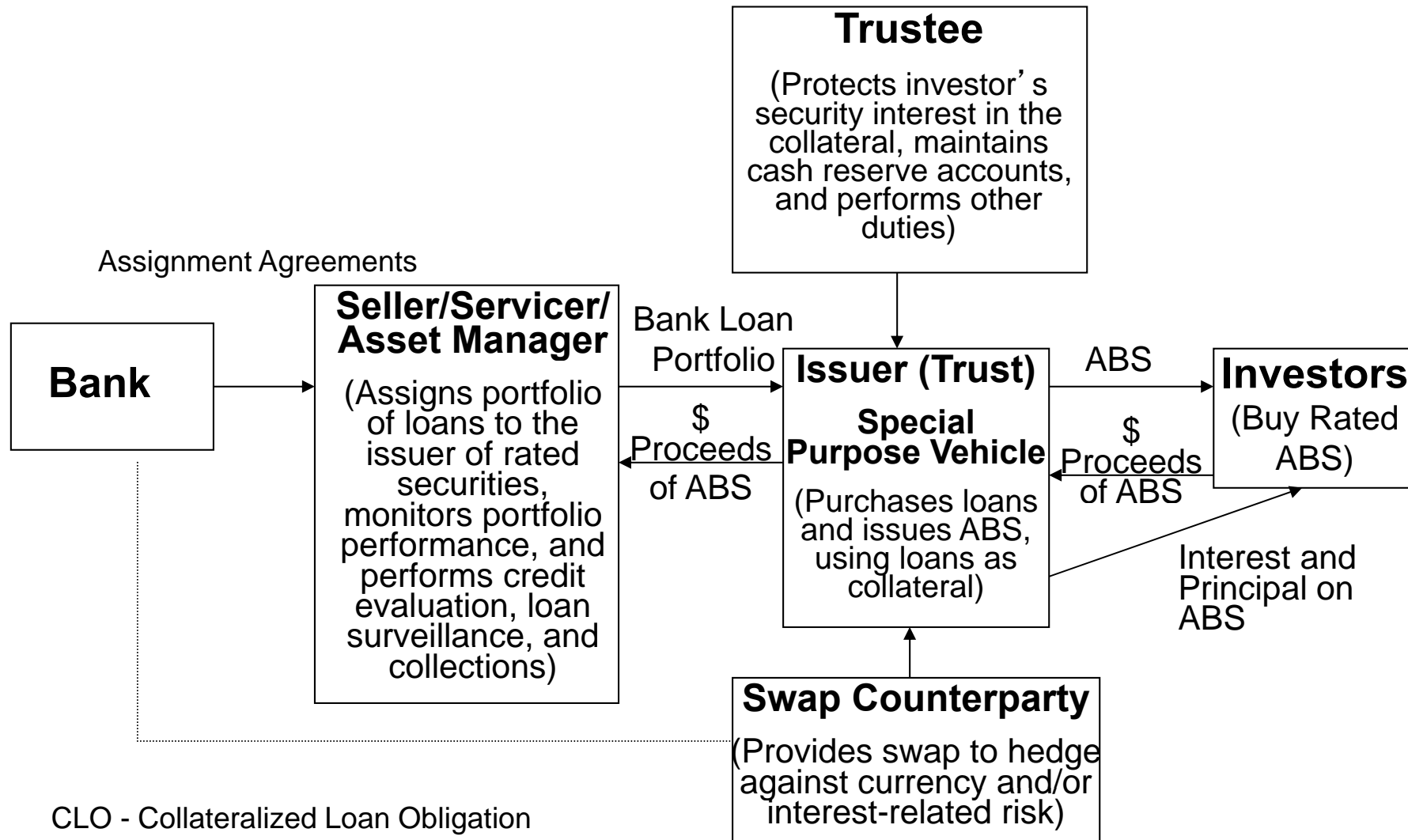
Historic Actual Return Spread	2.94%
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Expected 12 Month H.Y. Bond Return

Current Yield-Spread	3.59
Less: Expected Loss from Defaults	(1.16)
Expected Return Spread	2.43%
Plus: Current Yield 10 Yr T-Bonds	2.43
Estimated 12-Month on H.Y. Bonds	4.86%

Sample CLO Transaction Structure

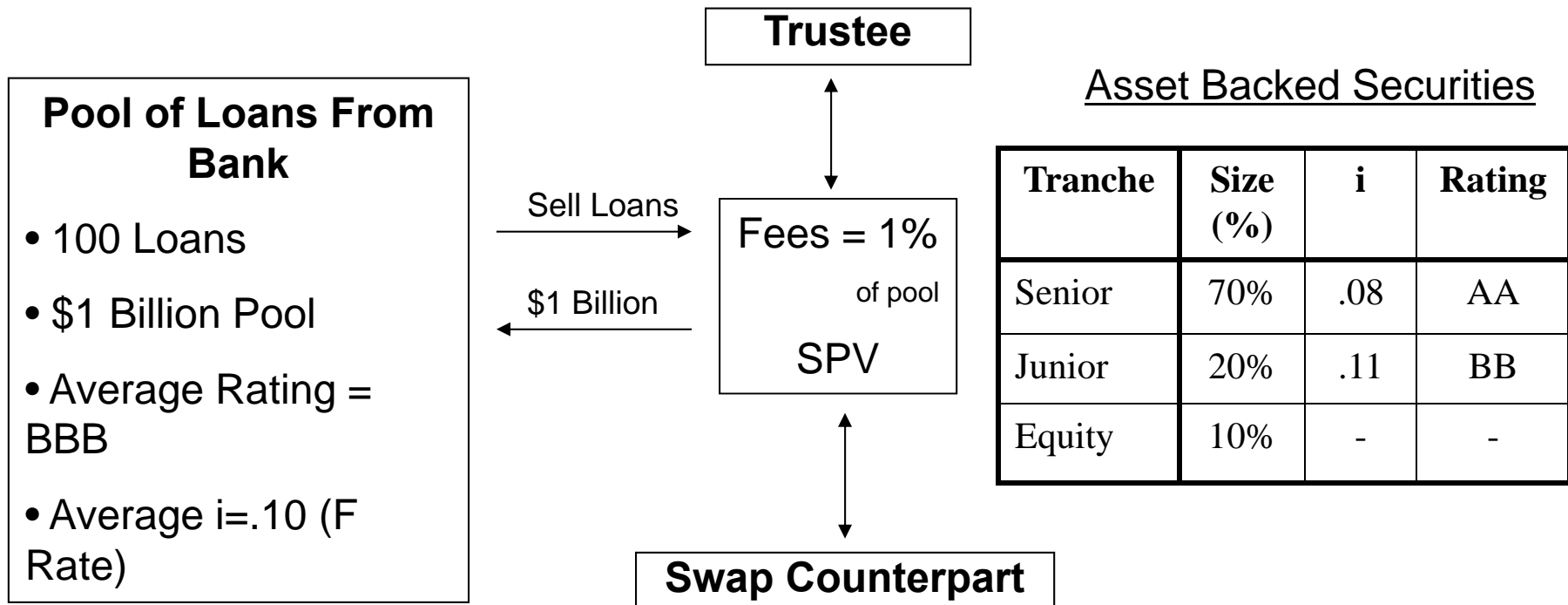
Sample CLO Transaction Structure



CLO - Collateralized Loan Obligation

ABS - Asset-backed Securities

CLO Example



CLO Example

Returns with No Defaults: Returns to ABS

	<i><u>First Year</u></i>	<i><u>Second Year</u></i>
Total Interest =	\$100 million	\$100 million
Interest to Senior =	\$56 million	\$56 million
Fees =	\$10 million	-----
Net From Jr.	\$34 million	\$44 million
Interest to Jr. =	\$22 million	\$22 million
Net to Equity =	\$12 million	\$22 million
ROE =	???	???

Market Vectors Index Solutions
Launches Altman
North America Defaulted And
Distressed Bond Index
(MVRCOV) (May 21, 2014)

Forthcoming ETF on Defaulted and
Distressed Bonds

Comparison of Returns

	Annual Total Return (%)				
Year	BofA ML Distressed Index	Altman-Kuehne Defaulted Bond Index	Altman-Kuehne Defaulted Combined Index	Citi High-Yield Bond Index	S&P 500 Index
2004	24.78	18.93	15.14	10.79	10.88
2005	-15.95	-1.78	1.73	2.08	4.92
2006	42.80	35.62	23.38	11.85	15.80
2007	-12.07	-11.53	-3.30	1.83	5.50
2008	-44.91	-55.09	-47.52	-25.91	-37.00
2009	116.67	96.42	55.99	55.19	26.46
2010	25.41	25.76	17.70	14.32	15.06
2011	-6.61	-3.66	-0.41	5.52	2.11
2012	24.10	2.63	7.63	15.17	15.99
2013	11.66	29.25	19.37	7.22	32.39
2014 (5/30)	6.57	7.57	7.58	4.97	4.54
2014 (1Q)	2.60	7.93	5.98	2.98	1.81
2004-2013 (10 year)					
Arithmetic Avg Return	16.59	13.65	8.97	9.81	9.21
Geometric Avg Return	9.82	7.11	5.59	8.23	7.40
2009-2013 (5 year)					
Arithmetic Avg Return	34.25	30.08	20.05	19.48	18.40
Geometric Avg Return	28.59	25.85	18.62	18.25	17.94
2011-2013 (3 year)					
Arithmetic Avg Return	9.72	9.41	8.86	9.30	16.83
Geometric Avg Return	8.98	8.52	8.56	9.22	16.18
Sharpe Ratio (10 year)	0.266	0.222	0.153	0.243	0.224

Target Portfolio Allocations for the ETF

Given Various Default Rates, Allocation within the Defaulted and Distressed Bond ETF will be as Follows:

Default Rate	Allocation
<4%	50% Defaulted / 50% Distressed
4% - 7%	65% Defaulted / 35% Distressed
>7%	80% Defaulted / 20% Distressed

Comparison of Returns:
 Combined Distressed & Defaulted Index with H.Y. Bonds & S&P 500

Year	Annual Total Return (%)		
	Combined Distressed & Defaulted Index , 50% Split	Citi High-Yield Bond Index	S&P 500 Index
2004	21.86	10.79	10.88
2005	-8.87	2.08	4.92
2006	39.21	11.85	15.80
2007	-11.80	1.83	5.50
2008	-50.00	-25.91	-37.00
2009	106.55	55.19	26.46
2010	25.59	14.32	15.06
2011	-5.14	5.52	2.11
2012	13.37	15.17	15.99
2013	20.46	7.22	32.39
2014 (5/30)	7.07	4.97	4.54
2014 (1Q)	5.27	2.98	1.81
2004-2013 (10 year)			
Arithmetic Avg Return	15.12	9.81	9.21
Geometric Avg Return	8.64	8.23	7.40
2009-2013 (5 year)			
Arithmetic Avg Return	32.16	19.48	18.40
Geometric Avg Return	27.43	18.25	17.94
2011-2013 (3 year)			
Arithmetic Avg Return	9.56	9.30	16.83
Geometric Avg Return	9.01	9.22	16.18
Sharpe Ratio (10 year)	0.248	0.243	0.224

Size of Distressed Debt Market

Estimated Face And Market Values Of Defaulted And Distressed Debt (\$ Billions)

2012 – 2014 (1Q)

	<u>Face Value</u>			<u>Market Value</u>			Market/Face Ratio
	12/31/2012	12/31/2013	3/31/2014	12/31/2012	12/31/2013	3/31/2014	
<u>Public Debt</u>							
Defaulted	252.39	247.90	246.83 ⁽¹⁾	100.96	111.55	86.39	0.35
Distressed	130.06	76.06	70.36 ⁽²⁾	91.04	53.24	45.73	0.65
Total Public	382.45	323.96	317.19	191.99	164.79	132.13	
<u>Private Debt</u>							
Defaulted	504.78	495.79	493.66 ⁽³⁾	277.63	347.06	320.88	0.65
Distressed	260.11	152.12	140.72 ⁽³⁾	208.09	121.69	105.54	0.75
Total Private	764.89	647.91	634.39	485.72	468.75	426.42	
Total Public and Private	1,147.34	971.87	951.58	677.71	633.54	558.55	

¹ Calculated using: (2013 defaulted population) + (2014 Defaults) - (2014 Emergences) - (2014 Distressed Exchanges).

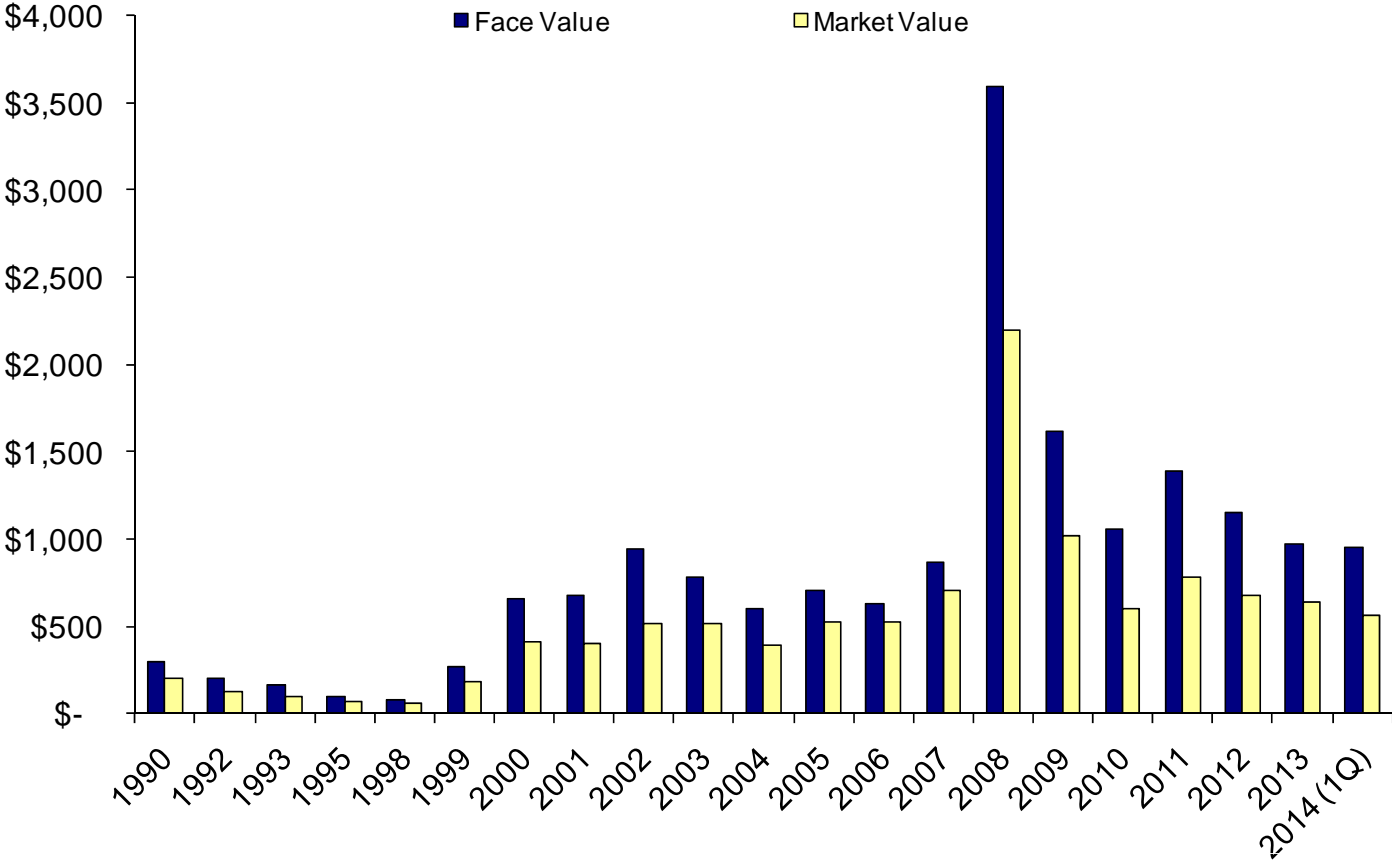
² Based on 4.80% of the high-yield bond market (\$1.467 trillion) as of 31 Mar. 14.

³ Based on a private/public ratio of 2.0.

Source: NYU Salomon Center and estimates by Professor Edward I. Altman.

Size Of The US Defaulted And Distressed Debt Market (\$ Billions)

1990 - 2014 (1Q)



Source: Author's Compilations